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PART 1

DEFENSE PROCUREMENT PROCESS

HEARING

BEFORE THE

TASK FORCE ON SELECTED DEFENSE PROCUREMENT MATTERS

OF THE

COMMITTEE ON ARMED SERVICES UNITED STATES SENATE

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DEFENSE PROCUREMENT PROCESS

THURSDAY, SEPTEMBER 13, 1984

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
TASK FORCE ON SELECTED DEFENSE PROCUREMENT MATTERS,
Washington, DC.

The task force met, pursuant to notice, at 10:05 a.m., in room SD-138, Dirksen Senate Office Building, Senator Dan Quayle (chairman of the task force) presiding.

Present: Senators Quayle, Levin, Bingaman, and Dixon.

Staff present: Alan R. Yuspeh, general counsel; Jeffrey H. Smith, minority counsel; David S. Lyles, professional staff member; Russell Miller, research assistant; Marie Chaillet and Karen A. Love, staff assistants.

Also present: Bernard R. Toon, assistant to Senator Quayle; Edward McGaffigan, Jr., assistant to Senator Bingaman; Charles C. Smith, assistant to Senator Dixon; and Ralph White, assistant to Senator Levin; Bill Montalto, Small Business Committee; and Jeff Minsky, assistant to Senator Cohen.

OPENING STATEMENT BY SENATOR DAN QUAYLE, CHAIRMAN

Senator QUAYLE. The committee will come to order.

The Defense Procurement Task Force meets this morning for the first in a series of three hearings to overview the defense procurement process.

Earlier this year, the Armed Services Committee established a Task Force on Selected Defense Procurement Matters. The task force was asked to consider warranties, spare parts, small business contracting, competition, and multiyear procurement.

Virtually all of the task force's time since its creation has been spent in considering legislation dealing with these subjects.

I am pleased to note that the task force reported some 40 pages of important procurement provisions on these and other issues in the defense authorization bill which passed the Senate, and had a substantial role in revising S. 2489, the Small Business Competition Enhancement Act, which the committee reported and which has also passed the Senate.

Though members of the task force are continuing to work on both of these pieces of legislation in conference, I thought it was important that we turn our attention to some of the larger procurement issues which are of concern to the country.

Today is the first of three hearings which are planned over the next several weeks to consider the strengths and weaknesses of our defense procurement system. Though the Congress has focused a great deal of attention on aspects of that system, such as spare

parts, I am concerned that we have not looked at the most fundamental and central questions that the system's operation raises.

For example, the U.S. Army spent the same amount of money on tanks this year as it did 30 years ago, but 30 years ago that $2 billion purchased 7,000 tanks while this year it bought only 700.

In 1951, the Department of Defense ordered 6,300 fighter planes at a cost of $7 billion in 1983 dollars. This year we will spend $11 billion to build only 322 planes.

I am fully aware of the fact that weapons systems today are hardly comparable with systems of 30 years ago, but that does not change the reality of trends toward far higher unit costs and far smaller quantities, trends that must be of concern to anyone who cares about our national defense.

What are the problems with defense procurement that deserve our attention? Answering that question is a major part of the purpose of these hearings.

But there are some problems that are obvious to us, and I hope the witnesses in our hearings today and in future hearings will address them.

How do we shorten the time that it takes from the conception of a weapon system to its operation in the field? How do we reduce the cost of systems? How do we achieve greater program stability? How do we ensure that weapons are of a high quality, so that systems in the field are reliable and maintainable?

How do we incentivize contractors to minimize costs? How do we train and motivate a highly professional, dedicated corps of military procurement managers? How do we increase competition?

These questions, I think, are at the heart of the concerns of this task force. They are questions for which we will seek answers today and in the future. I should note for the record that Secretary Weinberger and his management team deserve great credit for the attention which they have already given to these issues.

We are pleased to have with us today the four military officers who are responsible for all of the procurement for the Department of Defense. Adm. Steven White is chief of Naval Material; Gen. Larry Skantze is commander of the Air Force Systems Command; Gen. James Mullins is commander of the Air Force Logistics Command; and Gen. Richard Thompson is commander of the Army Materiel Command.

I know Senator Levin will be joining us. I wonder if Senator Bingaman might have an opening statement at this time?

Senator BINGAMAN. I don't, Mr. Chairman. I am looking forward to the testimony.

Senator QUAYLE. Senator Dixon has a prepared statement for the hearing record. Without objection, the statement will be inserted in the record at this point.

[The prepared statement of Senator Dixon follows:]

PREPARED STATEMENT BY SENATOR ALAN J. DIXON

I want to thank my good friend, Senator Quayle, for scheduling this hearing and the two which follow.

In the past 3 months, under the leadership of Senator Quayle and my warm friend and ranking member of the task force on procurement, Senator Carl Levin, this task force has played an active role in the passage of S. 2489, the Small Busi-

ness Competition Enhancement Act of 1984. This task force included portions of S. 2489 in the fiscal year 1985 Defense Authorization Act.

We are now meeting at the call of the chairman of the task force who has asked us to identify major defense procurement policy issues which will have an impact on the 99th Congress.

I am extremely pleased that the commanders of various military procurement agencies are among our first witnesses. Their expertise, in the procurement area, can give us insight into the problems which now plague the procurement process and which may come up in the future.

I look forward to their presentations. I am sure, Mr. Chairman, that their approach will be one of cooperation as we move forward with plans for effective implementation of this legislation.

We need an in-depth discussion about the ways in which the services intend to implement the legislation that will undoubtedly become law after the House/Senate conference finishes its work. All of us who have worked on this bill are making a forthright statement that this legislation is long overdue.

Both this task force and the Senate Armed Services Committee will be well served when we learn about how your respective agencies intend to implement this legislation. I, therefore, anticipate hearing any comments you may have on the recently passed legislation, S. 2489.

Thank you, Mr. Chairman.

Senator QUAYLE. We will proceed with the witnesses on the list. Admiral White?

STATEMENT OF ADM. STEVEN A. WHITE, CHIEF OF NAVAL MATERIAL

Admiral WHITE. Good morning, Mr. Chairman, and Senator Bingaman.

I am Adm. Steve White, chief of Naval Material. It is a pleasure to appear before you this morning and to inform you of the many Navy actions now underway to strengthen how we manage our defense procurements and get the best value for our taxpayers.

With the strong support and active involvement of Secretary Lehman and the CNO, Admiral Watkins, the Navy has been taking steps at all working levels to ensure that we buy the most cost effective, rugged, reliable, and dependable systems that we need to maintain and establish a highly capable Navy force, second to none.

I have purposely kept my statement brief as I understand that you desire to promptly address the issues of concern to this very important Senate Task Force on Procurement Matters.

I will be happy to answer any question you may have.

[The prepared statement of Admiral White follows:]

PREPARED STATEMENT OF ADM. STEVEN A. WHITE, U.S. NAVY, CHIEF OF NAVAL MATERIAL

Good morning. I am Admiral Steve White, the chief of Naval Material. It is a pleasure to appear at this Senate hearing and discuss with you many actions now underway within the Navy to strengthen how we manage our defense procurements. Under the guidance of the Secretary of the Navy and the Chief of Naval Operations, the Navy has been taking, and will continue to take, steps at all our working levels to ensure we get the most cost effective, rugged, reliable and dependable weapon systems we need to establish and maintain a highly capable naval force, second to none.

The Navy is the largest procurement activity in the United States. It is the role of the Chief of Naval Material to execute the acquisition policies of the administration. These management responsibilities encompass a very broad spectrum of acquisition and logistics efforts. The major ones range from Research and Development Programs, including all nine Navy Laboratories plus the test centers and ranges, to the acquisition, delivery and life cycle support of naval systems and hardware. In addi-

tion, these responsibilities include such widely diverse areas as: industrial activities (shipyards, weapons stations and air rework facilities, to name a few); inventory management and warehousing of 500,000 items; construction, maintenance and repair of real property; and operation of the Navy Exchange and Commissary System. There are over 250,000 employees in the Naval Material Command. The command expends almost 50 billion appropriated dollars each year to buy products and services through 3,500,000 contract actions. When salaries and operating expenses are added to the amount spent under Navy contracts, the total is 66 billion dollars of the Navy's entire annual appropriations.

Having said this, let me set out for you some of the many actions which focus on our principal objective—paying fair and reasonable prices for first rate weapon systems and support.

COMPETITION

In the area of competition, we have made remarkable progress in the last year in improving our track record. This fiscal year we will competitively buy over 86 percent of our ships. Especially encouraging is that over 90 percent of ships to be built or converted in the current five-year defense plan, including the SSN21 class of attack submarines, will be competed. We have set the right competitive business posture for the future of this major segment of the Navy budget.

The Navy has made strides in competing aircraft, missile, and electronic systems. For example, competition is a keystone in such major new starts as the CV Inner-Zone ASW Helicopter and JVX Advanced Vertical Lift Aircraft, and in other programs such as the common ejection seat and the purchase of commercially-owned C–9 aircraft.

Secretary Lehman's decision to establish second production sources for the Phoenix, Rolling Airframe and Standard Missile Programs is another important step. Empirical data on 45 weapon system acquisitions show substantial savings result after the introduction of competition in previously sole source programs. The establishment of second sources in the past has been shown to improve substantially cost and performance efficiency in an incumbent contractor. Furthermore, in many of these cases the second source was shown to have a cost improvement rate which exceeded that of the incumbent. We know from various studies that second sources in major programs do bring about innovation, cost savings and protection against single source situations. Therefore, whenever possible we are buying competitively at both the prime and subcontractor levels.

To enhance the industrial base further we have a program managed at my headquarters to carry the message to the small business community. During the past 20 months the Navy has conducted 37 briefings in congressional districts throughout the country on "How to Do Business with the Navy." Some 3,865 small businesses were briefed on the procedures of matching their capabilities with Navy requirements. This is one reason why, during fiscal year 1983, the Navy posted the largest one-year increase (28.6%) in small business awards in the history of the Navy's program. In total, $5.9 billion was awarded to small business on a prime contract basis and another $2.1 billion on a subcontract basis. Although difficult to measure precisely, we feel we have broadened our industrial base in key commodities, generated new competition for many of our items, and provided increased opportunities for small business participation in the Navy's procurements.

In fiscal year 1983, we reached the Navy's competition goal of 30 percent of total direct purchase dollars. This fiscal year, I have set our competition goal about 30% higher, at 38.6 percent of total direct dollars. Even though that was an extremely difficult undertaking, I am pleased to report that we are on track toward meeting this goal. This equates to $15.8 billion in competitive awards. We expect over half of all of our major contract actions to be competitive which is an increase of almost 70% since fiscal year 1982. This does not include the amount of competition at the subcontract level, which is significant. Therefore, the total amount of competition at both the prime and subcontract levels would be much higher than $15.8 billion.

This past year major emphasis has been placed on ensuring that we get our money's worth in sole source contracts where competition is not available to encourage efficiency and lower costs. We have focused attention on "should cost" studies. These studies employ the extensive engineering, technical and business capabilities of not only our laboratories but our buying and technical activities as well. Although heavily resource-oriented, they have shown that they are of considerable value. "Should cost" studies have been completed on several major sole source programs including: AEGIS Weapon System, SQS–53C Sonar, UYQ–21 Display System, HARM and Phoenix Missiles. The purpose of these "should cost" studies is to inde-

pendently determine the most efficient manufacturing and production costs for items and systems that we are buying. We use our Navy industrial facilities and our engineering and business staffs to accomplish these "should cost" studies. I am convinced that such studies can provide a unique and critical input to the negotiation of more cost reasonable sole source contracts.

Our objective is to put forces in place that will stimulate contractors to reduce costs and improve performance so that we can afford the level of naval weapons we must have. It is important to remember that competition gets us the best *value*, which includes not only cost but better delivery and improved quality as well.

SPARE PARTS

As you know, Secretary of Defense Weinberger directed an aggressive ten point program in mid-1983 that was intended to improve the acquisition and pricing of spare parts within DOD. I established Project BOSS (Buy Our Spares Smart) to institutionalize the letter and intent of the Secretary's program throughout the Navy. Project BOSS encompasses over 100 individual initiatives covering all aspects of spare parts acquisition and involves the logistics/procurement, technical and operational communities in a coordinated effort to correct recognized problems—truly an ALL HANDS effort.

A paramount objective of BOSS is to pay only fair and reasonable prices for spares. To date the project has been most successful, and updates have been provided to all levels within the Navy as well as to some congressional committees. Let me highlight for you some of the key accomplishments of the project to date:

Competition rates at the Aviation Supply Office (ASO) and the Ships Parts Control Office (SPCC), the Navy's two prime spare parts buying activities, have increased over 60% from fiscal year 1983. The increase in aviation spares competition has been even more dramatic.

Price Fighter, a Navy team of experts set up to ascertain the intrinsic ("should cost") value of spares. For the first time, a sailor aboard ship has the ability to challenge the price of an item by walking across the pier to members of the Price Fighter team. In addition, we have identified refund and cost avoidances of nearly $500,000 as a result of this effort.

We are challenging data legends that restrict our capability to compete and have been successful in getting literally thousands removed. We are prepared to continue to aggressively challenge legends even if it leads to litigation.

We have identified 60,000 items for breakout direct to vendors.

Regarding spares pricing, the Navy will not accept an equal allocation of overhead to spares items. Instead, we have prescribed that only fair and reasonable overhead be allocated in relation to the intrinsic value of an item using one of five different methods. In order to gain the widest and fastest possible acceptance of these new policies I wrote to the Chief Executive Officers of many of our major contractors to enlist their support.

Even with the excellent progress made to date in Project BOSS, the procurement of spare parts remains a complex issue. The solutions are people intensive. The problem did not occur overnight . . . the problem will not be solved overnight. Workable, long-term solutions have been identified and are being implemented. While we are seeing remarkable results from these improvements already, the full benefits will be reaped in the future.

QUALITY

As noted to you earlier, quality is a major feature in all our weapon systems. The Navy's objective is to obtain high quality items. I continue to monitor this area closely. If anyone does not think that we in the Navy are serious in this area, he just needs to look at the actions we have taken to refuse to accept items which did not meet our high standards.

Directly related to the quality area is warranties. While we focus on the design and manufacturing process to ensure quality, in the event that a product does not meet our standards we insist on tough warranties to obtain corrective action.

INDUSTRIAL MODERNIZATION INCENTIVE PROGRAM (IMIP)

You are aware of the significant amount of written and oral discussions in recent years on the decaying industrial base and the lack of capital investment in the United States. We in the Navy are doing our part to turn this around. Under Navy leadership, a program called the Industrial Modernization Incentive Program (IMIP) has been established. This program encourages plant-wide modernizations incorpo-

rating integrated, flexible and generic manufacturing and office systems which benefit one, a few, or all defense items being produced in the contractor's facilities.

The Navy has four programs under or near contract with projected investments of $150 million and projected savings of approximately $800 million through fiscal year 1992.

TECHNICAL DATA

I have issued the Navy policy that in design, development and initial production contracts requires contractors to identify all privately developed items prior to contract award. This policy also requires that they seek prior approval from the contracting officer to use other privately developed items, components, processes or computer software. The objective of this policy is to identify and separately price rights to data and computer software so as to permit the Navy to competitively acquire future requirements. The contractor must justify claims to all items and offer a price for the Navy to acquire unlimited rights in all the data and computer software.

MULTIYEAR PROCUREMENT

A major cost-savings initiative which the Navy has aggressively pursued is Multiyear Procurement. Since fiscal year 1982, when the DOD Authorization Act expanded the Department's authority, the Navy has awarded 51 multiyear contracts with savings in excess of $500 million. Five of these contracts were for major systems and involved up-front funding approval from Congress. However, the remainder were smaller programs, with no investment in initial obligation authority required, and, hence, no congressional approval required. We will continue to utilize this highly effective tool for the smaller acquisition programs and will continue to ask the Congress to approve selected major systems for multiyear procurement.

SUMMARY

Gentlemen, I have given you a rapid picture of the significant progress we in the Navy are making which is summarized as follows:

70 percent increase in the number of contracts competed;
86 percent of this year's ship construction program competed;
Almost 3,900 small businesses briefed;
60,000 items identified for breakout;
$500 million in savings under multiyear contracts;
30 percent increase in the competition goal which will set a record;
60 percent increase in competition for spare parts;
Obtained $500,000 in voluntary refunds for overpriced items;
Price Fighter team established;
Thousands of legends removed from data;
Major thrust on quality;
Second sources being established for several major missile programs;
Major emphasis on "should cost" studies;
Implemented Project BOSS (Buy Our Spares Smart); and
Issued new policy on Technical Data.

We must remember, however, that our problems are not new . . . they are not small . . . they will not be easily solved. Nevertheless, we are making progress. I welcome your interest and participation. Be assured, I am exploring every alternative available to me in order to achieve more value for the taxpayers' dollars.

We must not delude ourselves. The problems we both face are going to get more complex and tougher. I am confident, however, that if we work together we can solve them. I would be happy to answer any questions you may have.

Senator QUAYLE. General Skantze?

STATEMENT OF GEN. LAWRENCE A. SKANTZE, COMMANDER, AIR FORCE SYSTEMS COMMAND

General SKANTZE. Mr. Chairman, members of the committee, I am pleased to appear here today to talk about the Air Force acquisition process.

I have prepared a formal statement detailing my views on three issues: Program stability, competition, and legislation affecting the acquisition of our defense systems.

Before I summarize the statement, I will explain the scope of the Air Force Systems Command [AFSC] mission.

OVERVIEW

Our job is to acquire the capabilities needed to deter war, and, if necessary, to win in combat. AFSC is responsible for the research, development, test, evaluation, and acquisition of fully supported weapon systems.

They are acquired with the knowledge that the United States relies on the qualitative superiority of its weapon systems to offset the numerical advantages of the Soviet Union. This fact, combined with the public trust to manage your constituents' tax dollars, demands and receives diligent management of the Air Force RDT&E and procurement budget.

A great deal of money is involved. In fiscal year 1984, AFSC has 37 percent of the Air Force budget, or $32 billion. We manage nearly 14,000 active Air Force contracts whose face value is $109 billion.

We also provide contract management service for the Army, Navy, NASA, and other Government agencies when their contracts are under AFSC plant cognizance. The total number of contracts we manage, therefore, is over 26,000. Their face value is $120 billion.

Given the magnitude of our procurement job and financial responsibilities, improving the acquisition process is a continuing commitment.

We are in a period of reform that was self-initiated. Three years ago the Air Force launched an aggressive program to investigate the perennial problems of spiraling costs and stretched-out schedules that afflicted our acquisition process. Definitive cost and efficiency objectives resulted. AFSC has pursued a dynamic campaign to implement them.

The efforts are ongoing, and the system has been improved. Program requirements are more tightly controlled. Emphasis on new program approvals has ensured that starts are sound. Competition rates have exceeded DOD goals. More economic production rates are in use.

Sophisticated cost estimating analyses and tools have enabled realistic budgeting. Our improvement projects are demonstrations of the Air Force commitment to provide affordable weapon systems without comprising their capabilities.

Of our many cost control initiatives, I will focus on baselining, multiyear procurement, and increased competition.

BASELINING

First, baselining. Its purpose is to define and control program requirements and to prevent changes from creeping in.

Under this concept, programs are managed within the constraints of a defined baseline and cost cap. Simply stated, we get all

the major players to agree, up front, on program's cost, schedule, performance, training, spares, and maintenance.

The developer, user, tester, and logistician formally commit to delivering the required product on time within cost. Headquarters, U.S. Air Force, agrees to support through the budget cycle the necessary resources. Once the agreement is signed, changes must be approved at the same high level of the Air Force that approved the baseline.

An example of the process is the T-46A baseline. The signatories are the program manager, the commanders of Aeronautical Systems Division, Air Force Systems Command, Air Force Logistics Command, Air Training Command, Air Force Operational Test and Evaluation Center, and the Vice Chief of Staff of Air Force.

They will agree to the following key items: A current program estimate of $3.5 billion, a quantity of 650 aircraft, a DT&E schedule of April 1985 to January 1987, a first flight of April 1985, and an initial operating capability of September 1987; 20 programs are baselined or are in the process. All AFSC programs are under review for baselining applicability within the fiscal year 1986 President's budget.

Directly related to successful baselining is cost estimating. We are using automated analyses, for example, to estimate the costs of applying advanced technologies to our acquisition programs.

We have expanded and improved cost estimating training for our work force. These and other realistic budgeting initiatives have netted results. I think, though, that program stability is the key. If we change requirements or production rates, we won't get a handle on costs.

MULTIYEAR PROCUREMENT [MYP]

With the assistance of Congress, the Air Force now has six major programs under contract using multiyear procurement instead of annual buys. There are the F-16, B-1B, NAVSTAR Global Positioning System, KC-10, Defense Meteorological Satellite Program, and the Defense Satellite Communications System.

The fiscal year 1985 budget request proposes adding F-16 aircraft follow-on and F-16 simulators. Collectively our multiyear procurement programs will avoid costs of about $3 billion in then-year dollars through fiscal year 1989.

Cost avoidance for specific programs have exceeded forecasts. The B-1B engine multiyear strategy avoided $9 million more than we initially expected. We are starting to see other benefits too.

The engine contract allowed the prime contractor to place orders for 428 engines with its subcontractors instead of 41 under an annual buy. This provided a boost to the Nation's engine vendors, many of whom are small businesses running at 50-percent capacity due to depressed commercial sales.

There are more opportunities for multiyear procurement, but some of them are controversial. I will give two reasons why.

When we sign a multiyear procurement contract, it helps program stability and reduces costs. But at the same time it limits our programming flexibility. With a large percentage of our resources tied up in MYP contracts, it can be very difficult to solve funding

problems that arise when we put the annual Air Force budget together.

Additionally, many in DOD and Congress perceive a loss of Federal budget flexibility when we sign a multiyear contract.

Except for the B–1B and advanced buy parts for the Defense Satellite Communications System, the new multiyear procurement programs for which we requested approval in fiscal year 1984 were not approved. It is important to keep the multiyear procurement momentum, and we need your support. MYP is vital to the acquisition of affordable weapon systems.

COMPETITION

The third cost control initiative I will address is competition. Planning and maintaining competition is a fundamental responsibility in acquisition management. Advantages are many. The full range was recently demonstrated in the alternate fighter engine competition.

The competition for a new fighter engine culminated this year with a split award to two major suppliers. That ensures that competition will continue into the future. The strategy will save the Government up to $3 billion in the 20-year life cycle costs of ownership.

Because of the aggressive competition, we will have much improved engines, enhanced warranties, and enlarged industrial base, and better protection against production disruption.

I might add that we began that 7 years ago. You do not bring back competition of that order to fruition in 1 or 2 years. It took 7.

AFSC's commitment to increase competition is manifest in a contracting tool actively used by the product division commanders—the competition advocacy program. Last year advocates at headquarters and the product divisions helped convert about $400 million from noncompetitive to competitive buys. So far this year, $280 million of prime contracts and $500 million of subcontracts have been converted.

The encouraging competitive profile is evident in the three general categories of command procurement statistics: Price and technical design competitive; follow-on competition which refers to contracts orginially awarded competitively, but now produces by a single source; and sale source.

In fiscal year 1983, only 7 percent of our obligated dollars were sole source; 28 percent were competitive; 65 percent were follow-on to competition. Statistics so far this year show a similar trend. It is a good profile.

It is important to understand that the 65-percent follow-on to competition is a very important statistic. We cannot recompete the B–1 and that is lots of dollars and those dollars get categorized in the follow-on competition and, therefore, cannot in and of themselves be in a position to compete.

We estimate that 35 percent of the dollars paid to our prime contractors flow to first-tier subcontractors. About 40 percent of those dollars are competitively awarded, many at AFSC's instigation and direction. We are taking an active role in the prime contractor's

selection process, to the point of institutionalizing subcontractor competition.

While we could not recompete the B–1, we directed the contractor to compete the radar, to compete the inertial navigation system, to compete the tail warning system and to compete the basic processors on board that aircraft.

We are trying to institutionalize the process in which the Government can keep its hand and direct those subcontractor's competition and the Government indeed can take full advantage and full credit for having done that.

Increasing competition among small and disadvantaged business firms remains a priority. Our program has the direct involvement of AFSC field commanders and procurement experts.

We consider competition's practicability and effectiveness in every phase of the acquisition process. It is important to note that we also use other contracting tools to increase program efficiencies. These include second sourcing, component breakout, industrial modernization incentives, multiyear procurement, and cost studies. Competition is a goal when there is a tangible payoff. Absent a payoff, we would be wasting tax dollars.

LEGISLATION

I would like to turn to a discussion of legislation, both recent and pending, that affects the procurement of weapon systems. First is warranties.

AFSC has a history of obtaining warranties that meet the intent of current legislation. The alternate fighter engine competition I mentioned a few minutes ago resulted in a stringent warranty that covers hot section durability, thrust retention, fuel consumption, engine removal rates, and defects in material and workmanship.

WARRANTIES

Warranties and other product performance agreements and contractual incentives—motivate contractors to build in reliability. The objective, of course, is increased availability and a ready-fighting force.

Cost-effective warranties just make good business sense. In truth, though, we have had difficulties with the warranty language in section 794 of Public Law 98–212. It mandates application of the same tool to each aerospace system. A product performance agreement tailored to a system can be more practicable and economic.

Consider satellite systems, and the contractor's responsibility to repair or replace defective equipment. We cannot return satellites to Earth for the purpose of warranty implementation.

In previous satellite contracts our use of negative performance incentives has motivated contractors to provide acceptable products that perform in accordance with requirements.

Under the contract, a financial penalty is imposed for spacecraft that do not meet performance requirements during design lifetimes. A positive incentive is provided when design performance is exceeded. The strategy accommodates the system's characteristics and our performance requirements.

The proposed revisions in the fiscal year 1985 defense authorization bill are an improvement. They will afford the flexibility needed to balance warranty costs with benefits. For example, allowing the services to repair or replace equipment that is defective, and to charge the contractor costs associated with that repair accommodates systems operated in remote areas.

It is this type of flexibility we seek within a warranty statute. The law's provisions should reflect the realities of the logistics support system.

Other legislation that concerns us involves competition. The Small Business Act of 1984, H.R. 4209, proposes that a Small Business Administration breakout procurement center representative be assigned to buying activities procuring $150 million of spares annually.

This function duplicates the existing competition advocate office currently legislated in Public Law 98-369. Rather than an improved acquisition process, I foresee administrative confusion and schedule delays. I recommend this requirement be deleted.

Mandated procurement practices that focus on detail rather than policy, or that are unnecessary, may have unintended, undesirable effects. My greatest concern is that in our haste to change the process we have not properly deliberated the potential effects of proposed legislation of the small business community, and the total cost to the American taxpayer.

I strongly recommend that we place a moratorium on any further acquisition-related legislation and give Public Law 98-369 a chance to work.

SUMMARY

In closing, let me say that I and my colleagues at this table share the principles behind proposals to improve the defense systems' procurement process. Simply stated, we all want to promote cost savings in defense acquisitions.

AFSC's own cost control initiatives, like multiyear procurement, baselining, and competition, do that. They are only three of many ongoing in the command. Their effects are recognizable and encouraging.

Directly responsible for the cost-saving initiatives are highly competent professionals. Air Force Systems Command and Logistics Command have a combined work force of 150,000 military and civilians. They are committed to evaluating and improving the acquisition system.

Those who hold themselves accountable for identifying and fixing inefficiencies are the rule, not the exception. That is not news. It is a way of life.

Recent, routine examples include a structural repair specialist at Edwards Air Force Base who challenged, through channels, the price of a tubing machine. He noticed that it was $58,000 more than the contract stipulated. The contract was revised accordingly.

A senior master sergeant at Aeronautical Systems Division at Wright-Patterson Air Force Base recommended refurbishing retired F-100 flight test engines so they could be used as maintenance training engines for Air Training Command.

The suggestion was an alternative to buying new production engines. When implemented, it saved the Air Force $32 million, and made training engines available early. His initiative was rewarded with $25,000 given to him personally.

Perhaps the most accurate gauge of the effectiveness of our people and the way we do business is this. The Military Services' Acquisition and Logistics Commands have, for the duration of their brief histories, successfully developed, acquired, and supported the most effective weapon systems in the world, many of which are in continuous demand by our allies and other nations.

No adversary has risked the full retaliation of our capabilities. There may be no greater measure of the effectiveness of the current defense acquisition system. We need your support to continue.

Thank you, Mr. Chairman. I would be happy to answer any questions.

[The prepared statement of General Skantze follows:]

PREPARED STATEMENT BY GEN. LAWRENCE A. SKANTZE, COMMANDER, AIR FORCE SYSTEMS COMMAND

Mr. Chairman and Members of the Committee, I am pleased to appear here today to testify before your Committee. I will present my views on issues relating to the Air Force acquisition process: program stability through our baselining process, multiyear contracting, competition, and legislation affecting the procurement process.

Before addressing these, I want to explain the scope of Air Force Systems Command's (AFSC) mission.

COMMAND OVERVIEW

Our job is to acquire the capabilites needed to deter war and if necessary, to win in combat. The Command is responsible for the research, development, test, evaluation, and acquisition of fully supported weapon systems.

They are acquired with the knowledge that the United States relies on the quality of its weapon systems to offset the numerical advantages of the Soviet Union. This fact, combined with the public trust to manage your constituents' tax dollars, demands and receives our best efforts in the management of the Air Force RDT&E and procurement budget.

A great deal of money is involved. In fiscal year 1984, AFSC has 37% of the Air Force budget, or $32.2 billion. We manage 13,711 active Air Force contracts whose face value is $109.3 billion. We also provide contract management service for the Army, Navy, NASA, and other government agencies which have contracts under AFSC plant cognizance. The total number of contracts we manage, therefore, is 26,506. Their face value is $120.4 billion.

Our procurement job demands diligent financial management. To that end, improving the acquisition process is a continuing commitment.

We are in a period of reform that was self-initiated. Three years ago the Air Force launched an aggressive program to investigate the perennial problems of spiraling costs and stretched-out schedules that afflicted our acquisition process. Definitive cost and efficiency objectives were developed. AFSC has pursued a dynamic campaign to implement them.

We have had considerable success. Our major cost control achievements have largely resulted from baselining, multiyear procurement, increased competition, should cost evaluations, industrial modernization activities, and tough negotiations. Recognizing my time is limited, I will address three of these areas: baselining, multiyear, and increased competition.

BASELINING

Baselining is one of our principal initiatives. It is an effort geared toward stablizing programs through change control. A program baseline is an up-front, formal written agreement between all involved Air Force managers which states the specific requirements to be satisfied, provides a clear definition of the program to meet these requirements, and lays out resources to be allocated for the effort. The pro-

gram baseline is approved only when all three elements are consistent. The approved baseline forms a firm arrangement whereby HQ USAF agrees to support, through the budget cycle, the necessary resources and the developer (AFSC) along with the using, supporting, testing, and training commands collectively promise to deliver the required product on time within cost. After baselining, any changes must be approved at the same level within the Air Force that approved the baseline itself. We want the system to be stabilized, which avoids cost growth; therefore, both the initial approval and approval of any subsequent changes are placed at a high level within the Air Force. For example, on a limited number of larger programs we have vested the approval at the level of the Air Force Vice Chief. All others will be approved by the Assistant Vice Chief of Staff.

The baselining process has been initiated with selected major acquisition programs. The T-46A is an example. The signatories, which are the program manager, the commanders of Aeronautical Systems Division, Air Force Systems Command, Air Force Logistics Command, Air Training Command, Air Force Operational Test and Evaluation Center, and the Vice Chief of Staff of the Air Force, will agree to the following key items: a current program estimate of $3.5 billion (fiscal year 1985 President's Budget), a quantity of 650 aircraft, a DT&E schedule of April 1985–January 1987, a first flight of April 1985, and an Initial Operating Capability of September 1987. There are currently 19 additional major programs that are being baselined. Of these 19 programs, 4 have been approved by Headquarters USAF—2 by the Vice Chief and 2 by the Assistant Vice Chief. The remaining 15 programs are at various stages of coordination. We are expanding our efforts and have directed AFSC product divisions to review all their programs for baselining applicability with the fiscal year 1986 President's budget.

Closely related to the baselining process and an essential ingredient to its success, is our activity to improve cost estimating. We have increased the authorized manning, improved our training and education process, and undertaken modest, but high-payoff research into cost estimating of technology areas such as software, advanced composite materials, and advanced electronic circuitry. These initiatives have enhanced our ability to insure we have a good cost estimate to support not only baselining, but also the Full Scale Development and production approval process and the DOD initiative to budget to most likely cost. While we have not achieved all of our desired cost estimating improvements, we have made significant progress, as evidenced by the fact that our Selected Acquisition Report (SAR) program costs have remained relatively stable over the last two years.

MULTIYEAR PROCUREMENT

Closely coupled with the baselining program is multiyear procurement. With the assistance of Congress, the Air Force now has six major programs under contract using multiyear procurement techniques, with projected cost avoidance in excess of $2.5 billion[1] The fiscal year 1985 budget request proposes continuation of these six multiyear programs—including the Defense Satellite Communications System (DSCS) which was started in fiscal year 1984 using expanded advance procurement—and adds two new programs: F-16 aircraft follow-on and F-16 simulators. Collectively these eight programs are projected to result in a cost avoidance of over $2.7 billion through fiscal year 1989.

I'd like to briefly summarize where we are in the execution of the approved multiyear programs. Then I will discuss the new programs proposed in the fiscal year 1985 budget request.

F-16

Fiscal year 1985 marks the final year of the original F-16 multiyear procurement program started in fiscal year 1982. At completion, this program will procure 480 aircraft on a multiyear basis over four years and result in a cost avoidance in excess of $227 million. A significant side benefit of the program resulted from a $180 million subcontractor investment in productivity enhancements on not only the F-16 program but other defense programs as well.

NAVSTAR

NAVSTAR Global Positioning System (GPS) is in its third year under a multiyear contract for 28 satellites and will result in a cost avoidance of $212 million. In addition, the NAVSTAR contractor, Rockwell International, as well as several of Rock-

[1] Then year dollars.

well's subcontractors, have invested over $20 million in productivity enhancements and facilities expansion as a result of the multiyear procurement commitment.

KC-10

The KC-10 is in its second year of a 5-year multiyear contract for 44 aircraft which will result in a cost avoidance of $606 million. In addition to cost savings, multiyear gave us the vehicle to keep a vital U.S. asset viable—a wide bodied aircraft production line—while the airline industry recovers from setbacks experienced in the early 1980s and once again enters the aircraft procurement market.

DMSP

The Defense Meteorological Satellite Program (DMSP) is in its second year of a three-year multiyear procurement of four satellites which will result in a cost avoidance of $58 million.

B-1B

Expanded advanced procurement contracts have now been awarded for the four principal B-1B subsystems, as well as spare parts. As you know, the President has made a commitment to acquire 100 B-1B aircraft for $20.5 billion in 1981 base year dollars, which assumes an estimated cost avoidance using multiyear procurement of $800 million in base year dollars or $1.2 billion in then year dollars. The engine multiyear contract was awarded in July for a validated cost avoidance of $209 million versus the $200 million originally forecasted. The airframe and avionics (defensive and offensive) subsystems are being negotiated and savings will be validated prior to contract award which is projected for early 1985. We are also beginning to see other benefits. The engine contract allowed the prime contractor to place orders for 428 engines with its subcontractors instead of 41 under an annual buy. This provided a much needed boost to the nation's engine vendors, many of whom are small business firms, that were running at 50 percent capacity due to depressed commercial sales.

Fiscal year 1985 MYP candidates

Let me now move ahead to summarize our fiscal year 1985 MYP candidates. For fiscal year 1985, we have again selected candidates for multiyear that meet all congressional and DOD criteria.

DSCS

The Defense Satellite Communications System (DSCS) multiyear procurement was initiated in fiscal year 1984 with expanded advance procurement for seven satellites. Since the full multiyear contract is projected for award during fiscal year 1985, Congress requested that the Air Force resubmit the DSCS multiyear documentation with the fiscal year 1985 budget request. We now project cost avoidance in excess of $175 million and the program remains an excellent multiyear candidate.

F-16 simulator

The F-16 simulator program is a new multiyear start in fiscal year 1985. It's a low risk, stable program to produce 12 simulators over four years and is projected to result in a cost avoidance of $16 million.

F-16 aircraft

A follow-on multiyear procurement for F-16 aircraft is projected for initiation in fiscal year 1985 with expanded advance procurement to support acquisition of 720 aircraft over four years starting in fiscal year 1986. The F-16 is clearly one of our more stable programs and is an excellent multiyear procurement candidate. We project a cost avoidance in excess of $227 million.

Continued congressional support is absolutely essential for multiyear procurement to continue to serve its vital role in the acquisition of affordable weapon systems.

COMPETITION

Competition is a critical factor in keeping acquisition costs under control. Planning and maintaining competition is a fundamental responsibility in acquisition management. Reducing costs, improving the performance of systems, and strengthening the industrial base are some of the many benefits that results from increasing competition. I assure you that competition is looked at in every phase of the acquisition process to see where it is both practical and effective.

Competition is easier to achieve when it is built into a program right from the start rather than trying to introduce it when a program is already in production and sources are committed. Competition should be pursued when it makes good sense to do so, i.e., there is or will be a tangible payoff. In the absence of this payoff, we are obtaining only a false sense of competition, and the end result is a waste of taxpayers' hard-earned dollars.

Recently I sent a letter to my product division commanders reemphasizing my commitment to this fundamental contracting tool and I personally challenged them to seek out opportunities to infuse competition into their programs. But at the same time, recognizing that obtaining competition is not always practical, I urged them to use other contracting tools to increase program efficiencies such as subcontract competition, component breakout, industrial modernization incentives, multiyear procurement, and should cost studies.

We kicked off our Competition Advocacy Program early in 1982. Last fiscal year we converted $395 million from noncompetitive to competitive buys. So far this year, we have converted approximately $280 million of prime contracts and $500 million of subcontracts. We have also developed a Command Competition Plan that is used as a management tool to increase competition, forecast competitive obligations, and delineate significant achievements and management initiatives.

Our Command statistics are broken down into three general categories: price and technical design competition; follow-on to competition (contracts originally awarded competitively but now being produced by a single source); and sole source. In fiscal year 1983, 28.1% of our obligated dollars were competitive, 65.3% follow-on to competitive, and 6/6% sole sources. Our statistics through July for this year are similar. We are working hard to improve our competitive profile. The competition advocacy offices at all of our major divisions are currently being staffed. By fiscal year 1986, we will have some 80 full-time personnel working to increase competition in our programs. Our field and Headquarters' advocates are taking various actions. For example, they are taking steps to identify those additional costs to develop competition when utilizing dual sourcing techniques. These costs will be incorporated in our Program Objective Memorandum because the funding requirements to enhance competition must be calculated, identified, and advocated during the budget process.

Since the inception of our advocacy program, we have been aware of the important role of subcontract competition in our overall competition planning. We estimate that approximately 35% of the dollars paid to our prime contractors flow to first tier subcontractors. Many of these subcontracts are awarded through competition, including follow-on competition. Preliminary statistics from our major prime contractors indicate that approximately 40% of the dollars are competitively awarded. The Air Force Contract Management Division has developed a program to identify and increase subcontract competition. They have also taken positive actions to emphasize to our plant representatives and to our prime contractors that when an item is subcontracted, the maximum amount of competition must be achieved. By taking an active role in the prime contractor's subcontractor selection process, we can increase the subcontract competitive profile. For example, recently, on the F-15 Tactical Electronic Warfare System Intermediate Test Equipment we directed that a large portion of an otherwise non-competitive program be procured through subcontract competition. We estimate that on this program alone up to $500 million of subcontract competition may result. The full range of advantages from competition were recently demonstrated in the Alternate Fighter Engine and the F-15 Dual Role Fighter competitions. Earlier this year the Air Force announced the culmination of a competition for a new fighter engine which is estimated to save the government up to $3 billion in the 20-year life cycle costs of ownership. Because of the competition we will have vastly improved engines, significantly enhanced warranties, an enlarged industrial base, and better protection against production disruption. There was a split award to our two major suppliers, which will ensure that the benefits of competition will continue in the future.

In another case, the selection process for the Dual Role Fighter helped to broaden our traditional concept of competition. We evaluated alternative systems, the F-15 and F-16, to best determine future force structure while concurrently maintaining an intensely competitive environment between the contractors in order to obtain competitive pricing. This selection decision was made after comprehensive flight evaluations of both aircraft.

Increasing competition among our small and small disadvantaged business firms is also an important part of our program. We have taken many aggressive actions to make this program a success. As a result of these efforts, direct awards to small business have increased from $462 million in fiscal year 1981 to $632 million in fiscal year 1983. During the same timeframe subcontract awards increased from $2.9

billion to $3.5 billion. Highlights of our aggressive program include: (1) the AFSC Commander and field commanders have strongly articulated their support of the small and disadvantaged business programs, (2) an AFSC counsellor participates in each congressionally-sponsored Federal Procurement Conference counselling small and small disadvantaged business firms on how to compete for AFSC contracting opportunities, and (3) our Small and Disadvantaged Business Utilization specialists interface on a regular basis with many organizations, such as the Chamber of Commerce, to help increase our competitive base.

I can state unequivocally that AFSC is pressing hard to increase system competition and other efficiencies. I believe that effective stewardship of the taxpayers' dollars demands no less.

LEGISLATION

At this point, I would like to turn to a discussion of legislation-both recent and pending-that affects the procurement of weapon systems. The first area of comment concerns warranties.

The Air Force has endeavored to obtain warranties in procurement of weapon systems to meet the intent of current legislation. We have used warranties and product performance agreements as well as other contractual incentives to motivate contrators to build in realiability and to insure that quality products are delivered to the Air Force. AFSC has a long history of developing tailored warranty provisions for our weapons systems. For example, six years ago the AN/ARN-131 Omega 9 navigation set used in multiple transport aircraft (i.e., C-130 and C-141) incorporated a Reliability Improvement Warranty guarantee to insure a mean time between failure (MTBF) of 4,000 hours of operation. The Omega contractor must repair or replace those units not meeting the MRBF. A more recent example is the T-46 Next Generation Trainer. That contract contained a five-part warranty including a correction of the deficiency clause requiring the contractor to repair/replace any defects in design, material, workmanship, or integration discovered within one year of acceptance. Finally, the recent Alternate Fighter-Engine competition contained a stringent warranty that covered hot section durability, thrust retention, fuel consumption, engine removal rates, and defects in material and workmanship.

We have experienced difficulties with warranty language in section 794 of P.L. 98-212. However, the proposed revisions in fiscal year 1985 Defense Authorization Bill are an improvement and will provide the flexibility necessary for a viable warranty program. For example, the flexibility being proposed permitting the Service to repair or replace equipment that is defective and to charge the contractor costs associated with that repair was necessary to accommodate systems which are operated in remote areas. It is this type of flexibility that we are seeking within a warranty statute. We need the ability to apply warranties and guarantees when they make good business sense.

Satellite systems offer a particular challenge concerning warranty application and the contractor's responsibility to repair or replace defective equipment. It is not currently feasible to return satellites to earth for the purpose of warranty implementation. The Air Force utilizes a negative performance incentive in satellite contracts to motivate contractors to provide an acceptable product that would perfrom in accordance with Air Force requirements. A financial penalty for satellites which did not perform for at least one year is imposed upon the contractor, and a positive incentive is provided when performance exceeds two years.

The last warranty problem area I would like to address is in the area of configuration and configuration control. In most commercial products the designer and the seller have absolute control of the configuration. The configuration of an item may be changed at the seller's discretion and changes of this type have little or nor effect upon the warranties offered. Although this works very well in the commercial marketplace, it would cause a chain of events which would be totally unacceptable in military hardware. Configuration for defense systems is controlled by the military department. This is done to assure that the item being manufactured meets the close tolerances and stringent specifications required of weapon systems. It is also required to ensure supportability. If configurations of systems are changed to meet design or performance requirements, the associated spare parts and part numbers are also changed. The inventory of spare parts is adjusted to assure that parts of the correct configuration will be available when needed to make necessary repairs. This is not always the case in commercial products. In most instances the defective item is returned to the seller who has the discretion of repairing the existing part or replacing it with a newer version of the previous part. Our system works well as evidenced by our support record on older weapon systems such as the B-52. The com-

mercial system also works well on new items but obtaining spare parts for older automobiles and appliances can be very frustrating. This highlights the need for flexibility in development of warranties which has been provided by the waiver process however cumbersome it may be.

The second area of legislation in which I have concerns involves cmpetition. The Small Business Act of 1984 (H.R. 4209) assigns a Small Business Administration representative to buying activities procuring $150 million of spares annually. I believe that this function duplicates the existing competition advocate office that is currently legislated in Public Law 98-369. I recommend that the Small Business Administration Breakout Procurement Representative requirement be deleted.

Finally, there are several areas in proposed legislation which are of concern to me. These are:

Spare parts overhead cost allocations—would cause cost accounting system changes that would result in increased costs of weapon systems and potentially discourage small businesses from competing for defense business.

Data rights—the 7-year timeframe proposed for removal of proprietary restrictions will also negatively impact small business and result in increased costs to our weapon systems.

Sole source approval levels—multiple conflicting levels of review will cause high administrative costs and prolonged acquisition cycles.

We all recognize that changes needed to be made in the acquisition process. However, my greatest concern is that in our haste to change the process we have not properly deliberated the potential effects of the proposed legislation on the small business community and the total cost to the American taxpayer. I strongly recommend that we place a moratorium on any further acquisition related legislation and give Public Law 98-369 a chance to work.

CLOSING

In closing let me say that I and my colleagues at this table share the objectives and principles behind congressional proposals to improve the defense systems procurement process. Simply stated, we all want to promote cost savings in defense procurement. However, the Air Force's current initiatives described earlier can achieve that end. The effects of our emphasis on multiyear procurement, baselining, and competition are recognizable and encouraging. These initiatives are only three of many ongoing at AFSC.

There is an irrefutable fact about the way the military does business that no one in this room can afford to forget. It is this: the military services' acquisition and logistics commands have, for the duration of their brief histories successfully developed, acquired, and supported the most effective weapon systems in the world. No adversary has risked the retaliation of our capabilities. There may be no greater measure of the effectiveness of the current defense acquisition system. We need your support to continue.

I would be happy to answer any questions you have.

Senator QUAYLE. Thank you very much, General Skantze.

Next is General Mullins who I understand is going to retire in a couple of weeks.

This is probably your last appearance before the committee. We appreciate the contribution you have made not only to our armed services, but to the Nation. You have served us very well.

STATEMENT OF GEN. JAMES P. MULLINS, COMMANDER, AIR FORCE LOGISTICS COMMAND

General MULLINS. Thank you very much, Mr. Chairman.

I appreciate the opportunity to participate in today's hearing on the defense procurement system.

I have prepared a statement which I will ask be placed in its entirety in the record.

Given the absolute reliance that today's weapon systems have on logistics, it is my belief we must be capable of making critical resource allocations wherever and whenever required for any duration required. We must be able to do so with little or no warning.

Circumstances of today's national security environment and the possibility of a come-as-you-are conflict can no longer tolerate the reactive follow-on support concept so prevalent a few decades ago.

In AFLC our goal today is to bring a greater operational focus on our logistics business. We are making significant strides in that direction.

In the full statement I outline in greater detail the nature of the Air Force Logistics Command organization and how we are organized to get the job done and some of the major changes we have made in recent years to better enable us to cope with our growing and complex task.

This command is responsible for providing the logistics support necessary to meet Air Force readiness and sustainability objectives. We provide the foundation for the Air Force's combat capability.

Without the engines, fuel, munitions, spare parts, and maintenance which we provide, our sophisticated systems would contribute little to national defense.

The achievement of this mission requires a balanced approach, one that will provide the right goods and services on time and in the quantity needed to assure adequate operational readiness and with the quality necessary to ensure the safety and integrity of our weapon systems and to do all of this at the lowest cost possible.

Suboptimizing one of these critical elements, that is, timeliness, quantity, quality or price, at the expense of the others would be detrimental to the best interests of the national defense.

I also want to share with you my views on the recent spare parts pricing issue.

First of all, it is important to realize from the start that a spare part is not really a spare the way we normally think of spares, but rather a firm requirement. When we think of a spare anything, we usually mean something extra like a spare bedroom. But the spare parts we buy are not extra.

We predict projected flying hours, and sortie rates, and other factors to determine when parts are needed to keep our weapon systems operational.

The pricing problems, some real but most perceived, resulted from a number of factors, all of which worked against us in the 1970's and early 1980's.

Now, all Americans felt the effect of inflation during these years, but the aerospace labor and material costs rose higher and faster than the average. Serious underfunding for defense programs led to procurement of systems without sufficient regard for future logistics support.

We couldn't replace our frontline weapon systems as we had planned, thereby creating an increased need for parts. Defense industry, therefore, became a less attractive market segment and both the number of companies and amount of skilled labor available decreased. This reduced competition.

We in the Air Force also lost much of our skilled work force, many of those involved coming from the contracting area. Overall, in fact, since 1969 the Air Force Logistics Command lost 28 percent of its civilian work force.

These and other factors all worked against us in the late 1970's, undercut advantages otherwise inherent in the free enterprise

system and had a particularly serious effect on procurement of spare parts, especially lower value spare parts.

The Air Force has taken an in-depth look at our procurement system and has identified over 175 areas for improvement. Our people were generally doing a very good job implementing programs consistent with the existing resources and policy set down by management at all levels, but a lack of adequate resources resulted in weaknesses in the system which have now been identified and are now being corrected.

We are doing the things necessary to increase competition, including setting up of competition advocate offices at all levels within the Air Force Logistics Command.

We are correcting the inadequate and faulty policies and procedures and we are beginning to see concrete savings and positive results from our efforts.

We have incorporated procedures designed to ensure that each individual price is representative of the value of the item being bought.

We have enhanced our zero pricing program to speed up validation reviews and rewards for solid savings.

We are taking steps to overcome our shortage in both manpower and automation.

However, I must be quick to point out that the corrective action within the Air Force alone could not entirely solve the problems we have identified. Industry, too, is taking aggressive and positive action to deal with the issues.

We have had meetings with our counterparts in industry and are convinced they, too, recognize the problems and are working to overcome them.

The overall results are encouraging. We can see real progress. Savings are being realized and as we move ahead to institutionalize our improvement, we are convinced we are heading in the right direction.

However, additional time will be required for the corrective action to have their full effect. That leads me into the main point of my prepared testimony.

Both the Office of Federal Procurement Policy and the DOD IG have taken a look at what we have been doing since last year to correct the system. Both found that we had identified all the critical problems and had begun to solve them.

Both recommended the defense procurement system now be given some time to fully institutionalize and evaluate the many initiatives already being taken before any more significant changes are mandated.

In my prepared text I have discussed in some detail my legislative concern. If I may summarize, these include:

First, we must find some way to reduce administrative costs on competitive low value procurements.

The practice of giving a copy of the solicitation to everyone who requests one is simply not cost effective. Charging a flat fee for each bid set based on the estimated value of the buy is, I believe, the answer. But limiting the number of potential bidders to a reasonable number on a rotational basis would be even better.

Second, we question the need to process sole source justification to my headquarters or the Pentagon. In my view, approval by a senior executive service civilian or general officer will meet the intent of Congress.

Third, we believe it would be better to issue solicitations and extend bid opening dates rather than waiting 30 days after synopsising to issue a solicitation.

Fourth, we like the tone of the Competition in Contracting Act and agree the emphasis should be on achieving competition and not the form and formality used to get that competition.

However, this act will require a complete overhaul of the Federal procurement system in less than a year, a requirement that might seriously overtax our ability to make the changes needed.

Fifth, in the Competition in Contracting Act we are concerned about the new protest procedures. Of all of the protests we received, only a handful are ever sustained. I, therefore, question the merit of stopping work when a protest is received and legislating standards to resolve protests.

As far as future legislation is concerned, I have in my prepared text included specific concerns about legislation process. The bottom line, as I mentioned earlier, is that we now have all the help we need to fix what is not working well.

The initiative we in the Air Force Logistics Command and throughout the Air Force have undertaken are extensive and will take some time to become fully institutionalized down to the lowest working levels. Each time a new legislative initiative is taken, it requires further change and delays the ultimate reaching of our mutual goal of the most defense for our Nation's dollars available.

In summary, I want to emphasize the Air Force Logistics Command is fully committed to resolving the pricing concerns that have been raised by Congress, the administration and the American public.

This commitment is evidenced by the additional manpower resources we have allocated to accomplish increased breakout and competition and to enhance pricing of spare parts, by spending increased dollars up front to achieve greater savings in the long term, by implementing extensive changes wherever needed throughout our acquisition procedures, and by acquiring new and up-to-date automatic data processing equipment.

All these positive steps have been undertaken within existing legislative guidelines to ensure the items we buy are reasonably priced while at the same time being careful that the necessary changes are made without disrupting the Air Force's primary mission.

Working with a commitment by the defense contracting community, our combined efforts today are achieving very significant benefits.

The steps we have taken and continue to take are directed to providing needed logistics support at the lowest cost. We are fairly committed to continue our efforts to develop more and better ways to satisfy efficiently and economically the Air Force's requirements.

We must not lose sight of the ultimate purpose of our efforts. That is, supporting the Air Force's readiness and sustainability ini-

tiatives. We will most certainly continue our search for new and better ways of getting our job done.

We must always be careful not to undermine the purpose for which we acquire spare parts—to assure we stand ready as a Nation to execute our war plans if and when that is required.

Mr. Chairman, that concludes my statement. Thank you very much.

[The prepared statement of General Mullins follows:]

PREPARED STATEMENT OF GEN. JAMES P. MULLINS, COMMANDER, AIR FORCE LOGISTICS COMMAND, U.S. AIR FORCE

Thank you very much, Senator Quayle. I appreciate the opportunity to come here and participate in today's hearing on the defense procurement system. I would ask that my statement be inserted in the record in its entirety . In this statement I will address matters of prime concern to the Air Force Logistics Command which is the Air Force organization most deeply involved in the purchasing of replenishment spare parts.

THE BIG PICTURE

Logistics in Perspective

Before focusing on the more specific area of purchasing spare parts within Defense Procurement Systems as applies to the Air Force Logistics Command, I believe it is essential that we all have a common understanding and contemporary perspective of the term "logistics".

When many think of logistics today, they don't really think of military operations. They think of support as something that is less essential, as a diffuse activity off in the background somewhere. In fact, mention the word "logistics" to some, and they'll see the bins of nondescript spare parts in large, cavernous warehouses run by "little old ladies in tennis shoes."

There was an earlier day, of course, when such stereotypes of logistics may have had an ounce of truth. The outdated concepts of logistics that still exist today probably had their origin in World War II, when able-bodied men carried rifles, drove tanks and flew airplanes, while others supplied the spare parts.

For a period of years following World War II and extending well into the 1950's, logistics was pushed into the far recesses

of operational consciousness. For one thing, we had a substantial overseas presence and clear military dominance in the world--along with virtually unlimited resources. The strategic materials, the industrial capabilities and the energy we relied on were all clearly under our domain. We owned them, we controlled them, and we could depend on their being available.

Our weapon systems were also the latest. In fact, as soon as one system became outdated, we sent it to the boneyard and replaced it with a new system. For example, during this period we replaced the B-29 with the B-36, the B-36 with the B-47 (some 2,000 of them), and then the B-47 with the B-52. It was this approach, along with the short lead times associated with the relatively unsophisticated technologies being used at the time, that made the job of providing logistics support comparatively easy.

With the launch of Sputnik in October of 1957, the United States embarked on an unprecedented program to catch up to the Soviet Union in the missile development arena. We witnessed expanded science curricula in colleges and universities, large expenditures for scientific research, and ultimately, a national commitment to put a man on the moon first. Here again, logistics was played down, not because it wasn't necessary, but because we had overwhelming numbers of resources to fall back on.

We also had clearly superior military technology, along with the strong national commitment to use it if necessary. In fact, that was proven five years after the launch of Sputnik, when our unquestioned military superiority forced the Soviets to back down during the Cuban missile crisis.

Next came our preoccupation with the Vietnam War for more than a decade. Our involvement there was to have a profound impact on the nature and perceived importance of logistics. For one thing, it led to our neglect of both strategic forces and basic research-and-development efforts. But the tragedy of Vietnam also represented something else for this country. It was to be a departure point from which our military power would decline, and the power of our potential adversaries steadily increase.

During the '70s, we cut numerous military programs and allowed our defense industrial base to wither. It was during this time that the Soviets caught up, building more and better weapon systems as we grappled with a growing energy crisis and social, economic and political realignments.

Thus, as we entered the decade of the '80s, we were faced with a deteriorating international situation where we exerted less political, economic and military influence, where we were dependent on uncertain sources of energy and strategic materials, where our industrial base had fallen victim to years of serious neglect, and where the capability of our potential adversaries was greater than it had ever been before. The global situation has deteriorated so much that we now find ourselves facing what has come to be known as the "come-as-you-are war": one where unforeseen conflicts can erupt in the far reaches of the globe, threatening our vital interests, and where these conflicts can grow to high levels of intensity within a matter of hours or days.

On top of all of that, we are now facing a crisis in resource allocation, a crisis brought about by ever increasing demands to reduce the federal budget and increase social services. As a result, the relative share of resources allocated to defense in this country has sharply fallen.

These factors created the era we find ourselves in today--what I call the era of "bottom-line resource management." Our ability to defend this nation now depends on our ability to allocate scarce resources to get the most combat capability possible.

What does this have to do with logistics? Consider, first of all, just what logistics is: the supplying of goods and services where they're needed, when they're needed. Logistics involves determining what is necessary to defend this nation, what resource investments must be made to do that, and then actually making those investments and providing combat capability to our fighting forces.

It is not only the scarcity of resources that makes logistics the paramount military concern today. It is also the kinds of resources required and the speed at which these resources must be provided. The problem here is technology, and what it has done to the nature of warfare.

For one thing, it has increased the complexity of our weapon systems. In World War II, most of our weapon systems could be maintained with bailing-wire technology and home-town garage know-how. Now, however, we need such things as digital bomb navigational systems, heads-up displays, flight control computers, radar altimeters and offensive avionics.

To be effective in combat today, a front line weapon system like the F-15 requires support kits with thousands of line items and those support kits must be prepositioned around the world, ready to meet the tasking requirements of multiple peacetime and war plan scenarios. Our sophisticated weapon systems also require elaborate, high-technology, environmentally controlled maintenance facilities and large numbers of highly skilled personnel.

Without all of its critical, high-tech systems operating nearly 100 percent, a modern weapon today cannot be competitive in combat. It cannot do what we bought it to do to defend this nation and its vital interests.

The other effect of high technology has been to speed up the scenario, to cause things to happen faster in war. Where once warfare developed over decades or years, conflicts can now reach full intensity in a matter of hours. And considering how dispersed our vital interests are in the world today, how our sources of strategic materials and energy now lie at the ends of some very long and very vulnerable pipelines, this poses a serious danger.

Given the absolute reliance that modern weapon systems have on logistics, our mission unequivocally dictates that we be capable of making critical resource allocations wherever and whenever required, for any duration required and we must be able to do so virtually overnight. It is with that perspective that we are approaching logistics today in a proactive, operational way. The circumstances of today's national security environment

and the possibility of a "come-as-you-are" conflict can no longer tolerate the reactive, follow-on support concepts so prevalent in our previous approaches to logistics issues.

The Air Force Logistics Command in Perspective.

Our goal in AFLC is to bring an operational focus and this proactive approach to bear on every aspect of our logistics business, and we are making significant strides in that direction.

Our customers.

As you know, logistics is very big business. Within AFLC alone, we are supporting 134 active major Air Force installations worldwide--110 in the United States and our territorial possessions--and 24 in foreign nations. In addition to those active duty bases, we also support 139 Air National Guard installations (see Figure 1).

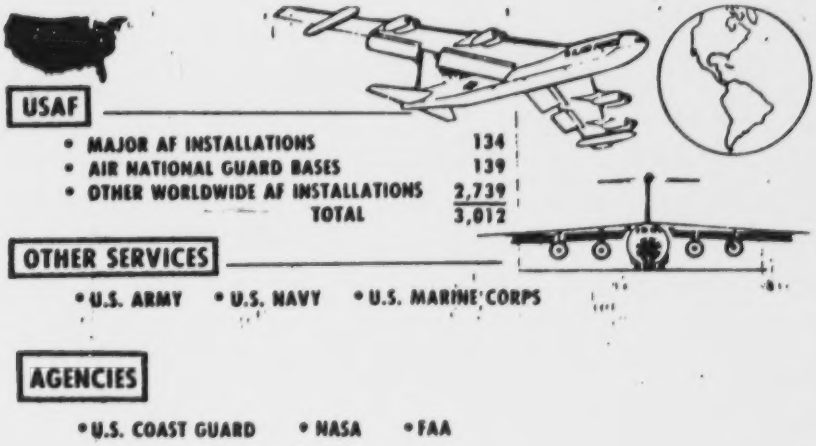

USAF
• MAJOR AF INSTALLATIONS 134
• AIR NATIONAL GUARD BASES 139
• OTHER WORLDWIDE AF INSTALLATIONS 2,739
TOTAL 3,012
OTHER SERVICES
• U.S. ARMY • U.S. NAVY • U.S. MARINE CORPS
AGENCIES
• U.S. COAST GUARD • NASA • FAA

Figure 1

Our Foreign Military Sales activity has also become a significant element of our logistics support, encompassing some 60 nations whose support requirements range from our most modern weapon systems to spare parts for the venerable C-47 "Gooney Bird." We are experiencing tremendous growth in FMS with regard to both the type and quantity of goods and services provided.

Couple that array of customers with the range of support required and you have a sense of the magnitude of our logistics mission and the vital role the Air Force Logistics Command plays in the defense of our national interests around the world.

A look at trends.

Logistics is the support of weapon systems and equipment as I mentioned earlier. Command workload is reflected in the following statistics:

				Projected
	1954	1982	1984	1990
Air Frames	20,000+	9,297	10,540	10,500
Engines	48,286	53,832	58,583	54,820
ICBMs	---	1,052	1,033	1,000
Air Launched Missiles	2	22	23	26
Munitions	75	120	94	135
Embedded Computers	---	3,200	25,000	80,000
Cruise Missiles	---	---	---	2,435

Recalling that weaponry and equipment are becoming more complex and sophisticated, the trend in logistics workload is clearly an upward trend.

On the other hand, the Command is primarily manned with a civilian work force which has declined dramatically over the years, essentially stabilizing after 1979 as shown in the following figure (see Figure 2). Increases since 1979 have the effect of bringing this work force back to the 1977 level.

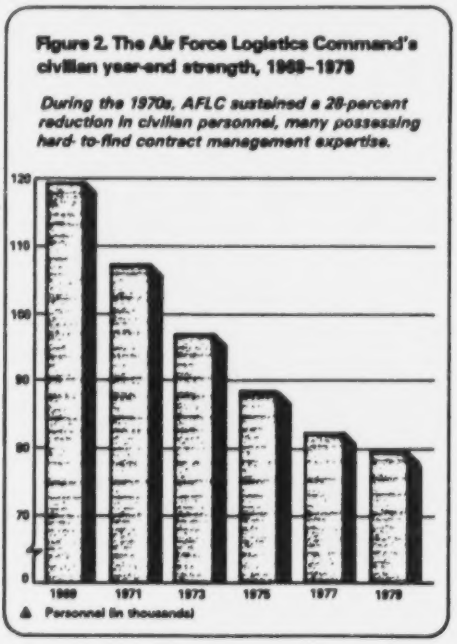


Figure 2

Command organization.

As shown in Figure 3, AFLC operates major air logistics centers (ALC) at Sacramento, San Antonio, Ogden, Warner Robins, and Oklahoma City, along with specialized activities at Wright-Patterson, Tucson, and Newark, Ohio. We also rely on contractor-operated depot facilities such as Boeing-Wichita, Hayes-Birmingham, McAir-Tulsa, Aero-Lake City, Florida, and E-Systems-Greenville, Texas. These contractor facilities not only handle the overflow from our depots, but they're an essential part of the support our fighting forces will need to execute their war plans.

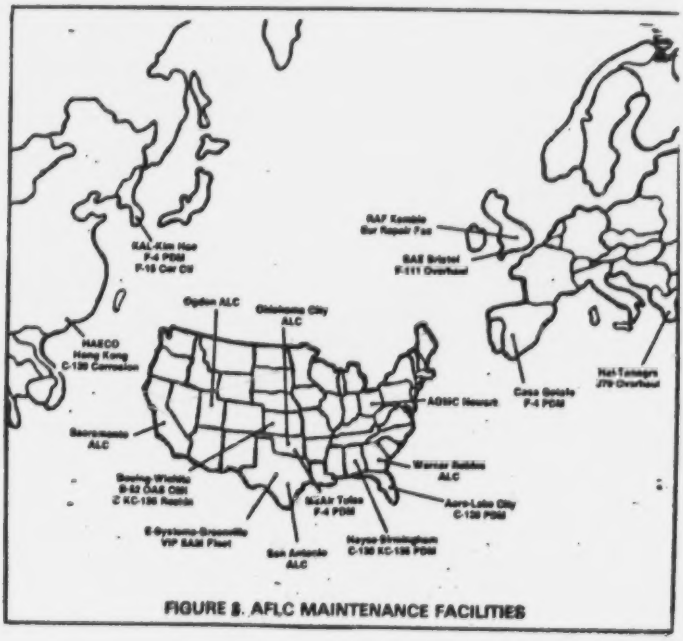


FIGURE 3. AFLC MAINTENANCE FACILITIES

We also rely on many key oversea contractor facilities, for example, those in CASA Getafe, Spain, and Kim Hae, Korea, to provide logistics support to operational units in their area--thereby decreasing pipelines and increasing readiness. And we've gained a new capability at RAF Kemble in the United Kingdom, which is now doing corrosion control and accomplishing time compliance technical orders (TCTO) on USAFE's A-10s. Also, hundreds of other contractors, both overseas and in the United States, do depot level repair for us.

People.

All these facilities, of course, would do us little good without the skilled people to man them, or administer their operations. In fact, as Figure 4 shows, in terms of manpower, AFLC is now the Air Force's third largest major command, with almost 93,000 people--accounting for one of every eight persons in the Air Force today.

Command	Total Assigned	Number MIL	Number CIV	Percent AF Total	Percent AF MIL	Percent AF CIV
SAC	121839	108213	13626	.15	.19	.06
TAC	117467	105024	12443	.15	.18	.06
AFLC	92818	10178	82642	.12	.02	.38
MAC	89303	73663	15640	.11	.13	.07
ATC	71011	54927	16084	.09	.09	.07
USAFE	61152	57249	3903	.08	.10	.02
AFSC	53311	26100	27211	.07	.04	.12
PACAF	30742	26523	4219	.04	.05	.02
TOTAL	637843	461975	175788			
AF TOTAL	798553	580011	218542			

Figure 4 AFLC Manpower Resources

The backbone of our work force is blue collar; in fact, one of every three people in AFLC is a tradesman, craftsman, or laborer. We also enjoy a great diversity of other skills--from clerical workers and managers, to scientists, engineers, and computer specialists. Perhaps more than any other command, AFLC represents a real cross-section of America's skill and talent.

What we do.

Logistics support is the continual process of providing Air Force weapon systems with consumables, spares, repair parts, and maintenance required for them to meet their wartime taskng. At the front end of this process, the logistics mission develops from the combat capability the Air Force must have to meet the threat to our national security. We provide the foundation for the Air Force's combat capability, for without the engines, fuel, munitions, spare parts and maintenance which we provide, all the sophisticated systems we have would contribute little for our national defense.

Basically, we have three main functions: (1) insure through up-front logistics integration--and by that I mean adequate consideration of logistics in independent research and development (IR&D) and our own research, development and acquisition (RD&A) efforts--so that our systems will be as reliable and supportable as possible; (2) determine requirements and taskings; (3) provide goods and services to satisfy those requirements and taskings.

How we do it.

Central to our logistics mission accomplishment is the concept of system program management. In the past AFLC was oriented toward the goal of reducing backorders and increasing fill rates. It was an item-oriented system, which did not wholly take into account the operational needs of the weapons sytems being supported. I changed that direction with the formation of a Logistics Operations Center and emphasis on system program management. System program management is a vital link to putting the wartime tasking of weapon systems up front. It places our emphasis on providing total logistics support to maximize operational readiness. The concept of system program management includes threat assessment and systems engineering to expand the capability, reliability and supportability of our systems.

The goal ultimately is to obtain adequate War Readiness Spares Kit (WRSK), Base Level Self-Sufficiency Spares (BLSS), Other War Reserve Materiel (OWRM), and Peacetime Operating Stock (POS) to support our war plans. We can satisfy that in two ways--better, more reliable aircraft or more spares repair capability. If we had weapon systems that never failed, spares would not be a problem. But since we don't have totally reliable systems we have to concentrate on ways and means to keep these imperfect systems flying--and that means carefully focused system program management of spares, piece parts and maintenance in disciplined conformance with our peacetime operational commitments and our war plan taskings.

We have strengthened the weapon system program manager role by enlarging his authority and responsibility. He is tasked to be a proactive manager, with up-front assessment and planning to stay ahead of the power curve. His job is to stimulate and direct progressive action which heads off problems, rather than reacting to problems, and to assure that positive measures are taken to enhance weapon system capability. In short, he is responsible for harmonizing resources to provide full up weapon system capability. He provides forceful leadership over the multitude of logistics resources which make up his total weapon system. He directs the efforts of inventory managers and the logistics processes through the military-industrial complex to assure the maximum possible contribution of his weapon to its wartime tasking. He must be a tactician in every sense of the word. I hold him personally accountable for the operational capability of his weapon system in its totality, and its ability to effectively fulfill its operational role in peace and war.

To provide a control mechanism of sort at the major command level, we've also created a Logistics Operations Center--(the LOC)--which will effectively provide program management at this level. In fact, the LOC will constantly survey the environment, redressing logistics support problems in strategic, tactical, airlift, and training requirements. The new Logistics Operations Center will integrate weapon system planning, programming, budgeting, and program execution--and will put AFLC on a 24-hour-a-day, wartime footing.

Another logistics support issue we're preparing to meet concerns an anticipated explosion in our embedded computer workload segment. In the past, hardware in the Air Force was the pacing item. We had time to complete the software while we were waiting. With hardware technology leaping and chips increasing ten-fold in capability, software is not only taking a larger share of the pie, but in terms of total dollars, will increase almost ten-fold from FY80 to FY90 (see Figure 5).

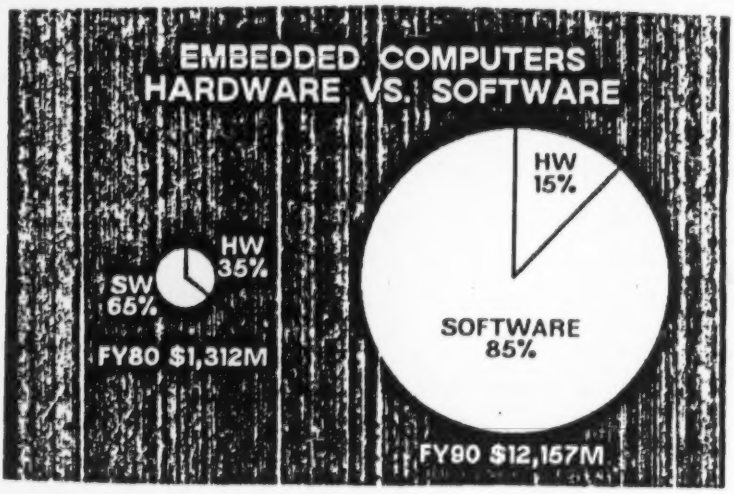


Figure 5

More importantly, the growth in the embedded computer segment of our business underscores another reality concerning our future workload. Most of our new capability will be realized through improved electronics and more sophisticated software rather than the acquisiton of totally new systems. We are stepping up to that changing workload now.

the acquisiton of totally new systems. We are stepping up to that changing workload now.

One of the essential tools necessary for us to accommodate that workload is a good management information system. Therefore, we have set up the Logistics Management Systems Center to modernize our telecommunications and data processing capability.

We've also recently changed the former Air Force Acquisition Logistics Division to the Air Force Acquisition Logistics Center, which is jointly operated by AFSC and AFLC. The Center's mission is to inject logistics supportability concerns up front--preferably at the IR&D phase.

These, then are typical illustrations of our on-going efforts to create and maintain the operational mindset throughout our command. We consider these initiatives to be vital and integral to our logistics support mission.

Overall reflection.

Clearly, in terms of supporting the combat capability of the United States Air Force, we've come a long way in this command. But frankly, we have a long way to go. There are many serious problems we must face, and some of them are, in part, of our own making.

In some cases, we don't precisely define the specific requirement, while in others, we rely on inadequate management systems. And very often, we fall victim to outdated mind-sets--to inaccurate and limited ways of thinking which lead us to believe either that we don't have a problem, or that there isn't an effective way to deal with it.

The fact of the matter is that we do have serious problems--and to solve them, we need to stand up, step forward, and exploit our innovative genius to get the job done. In recent years, we've accomplished a great deal--from designing new internal management systems, to formulating support initiatives--from building weapon system models, to expanding our security assistance efforts. And although we're not there yet, we're certainly heading in the right direction. Indeed, in a very real sense, we're now writing a new chapter in the history of military logistics--one characterized by AFLC's searching to find new and better ways of getting the job done. This reorientation of AFLC coupled with the vastly improved funding posture for logistics has already paid dividends in Air Force readiness and sustainability and promises much more.

The Spare Parts Issue in Perspective.

Having established the term "logistics" in its proper perspective and reviewed the role of the Air Force Logistics Command in its logistics support mission, I would now like to offer some views on the recent spare parts issue for your consideration.

Our capacity to deter, or to fight and win hinges on the ability to project fighting forces where and when they are needed and to sustain them for as long as they are needed. Readiness and sustainability, therefore, are the backbone of today's national defense posture. And since the availability of spares is a key determinant of readiness and sustainability, affordability has become a major concern as well.

What Are Spare Parts?

A spare part can be anything from a noncritical fastener costing a few cents to a radar processor costing thousands of dollars. In purchasing roughly 95,000 replenishment items each year, the Air Force Logistics Command spends about 75 percent of its spares procurement dollars on just 25 percent of these parts. Closely controlled and audited, these big-ticket purchases generally are not part of the pricing problem, though the command will continue its work on measures such as acquisition method code screening that promote competition in this area. Instead, nearly all the media reports of overpricing have focused on low-value, low-visibility spare parts--the nuts, bolts, and washers--and the cost of these items has needed better control.

The connotation of the word "spares," whether applied to low-cost or high-cost items, is unfortunate, for it suggests something unneeded or extra and distorts the true ramifications of the pricing issue. Given the impact of technology on modern logistics, replenishment parts for military equipment are not spare in the traditional sense of the word. Spares for military hardware are purchased not because they may be needed, but because they will be needed. In the case of technologically sophisticated weapon systems, Air Force personnel know when component falures are going to occur. Using modern data collection and analysis techniques, they can predict when parts will break or wear out. These predictions, in turn, serve as the basis for buying, stocking and distributing replacements--so-called "spare" parts.

The Right of Americans.

Whatever the label applied to the product, Americans have both the right and duty to demand a full return on their tax dollars, especially those used for national defense. Not unexpectedly, revelations about $1,000 plastic stool caps and $30 machine screws have caused many taxpayers to question the management capabilities, if not the integrity, of the defense community. The indictment of spare parts pricing is serious not only because it suggests waste, but also because it erodes the credibility of vital defense programs and effectively undermines our ability to buy the military protection this country needs.

Analysis of the Problem.

An indictment, however, is not a judgment of guilt. It is only an indication that something in the system is wrong and needs correction. Analysis of the spares problem reveals a host of causes that stem from the government's inability to fully exploit the strengths of our free enterprise economy. Contributing factors include inflation (especially in the aerospace industry), an exodus of skilled and experienced professionals from government service, and a weakened industrial base, largely due to a decade of underfunding for defense.

In part, inadequate funding in the seventies also dictated the need for small-quantity purchases, which violated a cardinal rule of free enterprise economics. Additionally, military buyers had to pay the high price of materiel and manufacturing associated with emerging military technology, yet at the same time, bear the high cost of carry-over technologies needed to keep older systems operating.

In the 1970s, of course, nearly all Americans felt the effects of inflation. By the end of that decade, at a time when the nation was spending more on defense in order to make up for years of neglect, inflation had halved the buying power of the dollar. However, in the aerospace industry, with its need for high-demand skills, exotic materials, and expensive retooling, inflation took an even greater toll. In fact, a 1983 joint senior services review team found that, based on producer-price index values for labor and raw materials needed to produce high-performance jet-engine parts, the inflation rate in the aerospace industry during 1980 alone was in excess of 26 percent.

The magnitude of these increases becomes even more pronounced when one considers federal cataloging system procedures. If no one purchases an item for a period of time, the catalog continues to show the price last paid. It may have carried that figure over for 10 years or so, and thus the list price has little relevance to modern economic realities, as the Air Force discovered when it began buying many of the new items it needed in the late 1970s. The situation was not unlike finding a 10-year-old Sears catalog in the attic, putting in an order, and then receiving a bill at today's prices.

Not only has inflation driven up the prices now being paid for spares, but the neglect of the 1970s has contributed to upward pressures as well. The serious underfunding of defense during that decade, coupled with the necessity to modernize the force, resulted in the purchase of new systems without adequate consideration of logistics support. For example, in FY 1976, the

Air Force was funding spares at only 37 percent of the requirement and by FY 1980, that figure had fallen to 24 percent. Given the new weapon systems being introduced, the service was setting itself up for a serious spare parts deficiency that would begin to haunt it in the 1980s.

Even with spares underfunding, the Air Force still could not afford as many new systems as were needed. Consequently, it had to modify old systems to give them new capabilities. But that short-term fix had the effect of aging the inventory, and, like keeping an old car going, it increased the need for spare parts, further exacerbating the shortfall that lay ahead.

That problem would not have been so serious, of course, had the industrial base remained healthy. But the budget cuts of the 1970s had also effectively decimated much of the nation's defense industry, including spare parts manufacturers. In fact, almost half of America's defense suppliers, with all their experience and expertise, vanished during those years. The number of aerospace suppliers alone dropped almost 42 percent, from 6,000 in 1967 to slightly more than 3,000 by 1980.

An offshoot of the loss of contractors was a loss of skilled defense workers in both industry and government. As the number of defense contracts declined, many private-sector workers were forced from defense-related jobs. By 1981, according to U.S. News and World Report ("Big Arms Buildup--It's Already in Trouble," August 17, 1981), shortfalls in defense industry had reached 33 percent for engineers, 49 percent for computer specialists, and 84 percent for statisticians.

In the government, cutbacks were particularly noticeable in procurement and contract management, with civilian employees absorbing the brunt. As I mentoned earlier, during the seventies, the Air Force Logistics Command sustained a 28-percent reduction in civilian personnel, many of whom possessed years of experience and hard-to-find expertise. Ironically, at this same time, the command's workload was expanding. In the absence of skilled personnel to manage and monitor the resurgent contracting activity, the command had to focus its efforts on higher-cost items, sometimes at the expense of bit parts such as nuts and bolts.

Nonetheless, many of the allegations of reckless expenditures for common-use bit parts have not been wellfounded. For example, the $30 machine screws needed for the F-4 were not run-of-the-mill, galvanized steel fasteners available at the corner hardware store. They were precision-designed, heat-resistant titanium and tungsten machine screws that had to be able to withstand the torque and stress of jet propulsion. Increasingly sophisticated technology requires spare parts as technologically advanced as the weapon system itself, and the price of spares is keeping pace.

Adding to the high cost of procuring and working strategic materials such as titanium is the less competitive market place mentioned above. Fewer defense contractors are available, and the military services are placing greater demands on them. Consequently, the Air Force was able to spend only about 31 percent of its replenishment spares procurement dollars

competitively through 1982. Complicating the competition problems were incomplete or missing engineering data, the proprietary rights many contractors maintained over their data, and the urgency of the need for the parts themselves following events in Afghanistan and Iran.

Old technology is a major contributor to rising defense costs as well. At one time, the Air Force disposed of its outmoded equipment. Thirty or so years ago, the service bought thousands of new weapon systems which it discarded and replaced as they became unreliable and outdated. As I noted before, in the 1950s, the Air Force acquired 2,000 B-47s, which it replaced several years later, when the technology became obsolete, with some 700 B-52s. But today, due to budget constraints, many of those B-52s are still in the active inventory, and the same holds true for a number of other aircraft in today's fleet. In fact, the average age of Air Force aircraft is about 14 years, not counting that of the National Guard and Air Reserve, while the number of manufacturers of parts to support these aging ships has nose-dived.

Beginning in 1980 with the new administration's commitment to restoring our faltering defense posture, the Air Force came under pressure to somehow catch up, to overcome the shortfalls incurred during the previous decade. Though the industrial base was thin, competition had waned, and the demand for high-technology resources was great, the urgency of the situation precluded a slow-paced, economically sound approach to this recovery. In fact, Air Force outlays in constant dollars began rising as fast then as they had fallen in the previous 10 years.

Thus, the Air Force turned to procurement mechanisms such as the fixed-price redeterminable contract in order to ensure, in advance, that it would get the limited production capability needed when it became available. Moreover, the service had to get into the manufacturer's queue, committing itself to future buys without knowing what the exact price would be. In effect, prior neglect, coupled with a deteriorating international situation, forced the Air Force to play the futures market in defense. And as anyone who plays the futures market knows, doing so is a risky business. The Air Force took the risk and, in terms of maintaining our national security, won; but in terms of saving dollars, the service lost. Pressures from inflation, supply and demand, and the technologies being supported pushed prices--and the cost of defense--up.

Consider the case of part number 4043605 for the F-100 engine. In 1978, that item, made in part of cobalt and titanium, cost the Air Force $1,189.91. But because of lead times and material shortages, the service had to commit then to a 1982 buy--at 1982 prices. In 1980 and 1981, the price of cobalt and titanium escalated at a rate much higher than general inflation, and as a result, the price we had to pay for the part in 1982 turned out to be $2,127.78.

That, then, is how the parts pricing problem came to be. A combination of factors, all working against us in the late 1970s and early 1980s, effectively undercut advantages otherwise inherent in the free enterprise system and thus had an impact on the procurement of certain lower-value spare parts. Given these

circumstances, the problem is neither as surprising nor as widespread as many have represented. And it is certainly not a malevolent manifestation of a corrupt or feckless system.

Solving the Problem.

In solving the parts pricing problem, the Air Force is seeking to better exploit the strengths of free enterprise. The innovation and achievement fostered by that philosophy will result in the efficient and timely manufacture of reasonably priced, high-quality products. The steps the Air Force is taking to control costs do not involve constraints and needless regulation but, rather, free competition.

These measures derive from the results of various investigations and audits, carried out in 1982 and 1983, which surfaced evidence of apparently wasteful spending. In response, the Air Force Logistics Command set up PACER PRICE, a program under which engineering technicians and pricing analysts screen low-value items to determine what the true appraisal value ought to be. The command also revitalized the Air Force's Zero Overpricing program, which gives individuals who actually requisition items from the supply system the means to challenge the prices shown for the item. Users of an item often have a better idea of what its appraisal value might be than do those processing the requisition.

As you know, the Air Force Management Analysis Group conducted a very thorough investigation and issued a final report in 1983. Based on its recommendation, PACER PRICE, formerly an ad hoc program, became a formal activity under the newly formed

office of the competition advocate. The group also advocated that the Air Force put additional resources into the technical screening of items for competitive breakout or direct purchase from vendors, and lowering the dollar thresholds in order to expand the benefit of this approach to acquisition of lower-value parts. In addition, it called for more detailed acquisition method coding reviews and greater emphasis on follow-on actions to complete the data packages necessary for competition on the next buy. We will go into further detail on the results of our initiatives in the next section of this testimony.

Concluding Thoughts on the Spare Parts Issue.

The Air Force is doing what is necessary to ensure that the American taxpayer gets his money's worth and that the military-industrial complex maintains the credibility it must have to protect our free way of life. Paying a fair price for spares is a worthy enough goal in its own right. But, equally important, paying more than a fair price wastes scarce defense resources and can easily undermine the public's trust in both the military and defense industry. In so doing, it can cause irrevocable harm to the overall defense effort.

We're working hard to prevent that from happening, and to ensure the taxpayers are getting fair value for every dollar we spend. We are, as you know, aggressively identifying and resolving policy, procedural and regulatory impediments that have historically blocked, interfered with, or otherwise encumbered our efforts to achieve fair and reasonable spare parts pricing. At this pint, I'd like to highlight in more detail the initiatives we have taken and the successes we have experienced to date.

MAJOR PROBLEM AREAS

Background.

Over the past two years, Congressional, media, public and this Administration's attention has been focused on our defense procurement system. Many problems have been cited and criticisms made which obscure the fact that, in large part, the Services themselves were discovering those problems and pursuing appropriate fixes to the extent that available resources would allow.

During the years 1979 through 1982, the Air Force Logistics Command began to investigate the causes of sharp increases paid for certain spare parts. A series of internal studies and investigations beginning in 1979, resulted, in late 1982, in a public disclosure of our Oklahoma City Air Logistics Center report on engine spare parts price increases. In July of that year one of our contracts supervisors at that Center sent a letter to the Air Force plant representative at Pratt and Whitney's West Palm Beach facility, voicing serious concern about the substantial increases in the prices of certain aircraft engine parts. That letter, a request for help, made its way to the Press and became one of the instruments that led to numerous investigations into the Department of Defense's acquisition processes. Yes, we certainly did come to realize that there were some serious problems in the way we were doing business in the purchase of spare parts.

Air Force Management Analysis Group.

It was against this backdrop that the Air Force Management Analysis Group (AFMAG) on Spare Parts Acquisition was formed at the direction of the Secretary of the Air Force in May of 1983. The AFMAG was established under the auspices of the USAF Inspector General to provide oversight, Air Staff interface, and, for follow-up actions, to monitor implementation and execution of the AFMAG findings and recommendations.

Under the directorship of Major General Dewey K. K. Lowe, Commander of the Air Force Logistics Command's Sacramento Air Logistics Center, AFMAG was composed of Air Force acquisition professionals in the areas of data management, provisioning, requirements, contracting, pricing and contract administration.

As the AFMAG was conducting its review, Secretary Weinberger issued his Ten and Twenty-five Point Programs to improve the acquisition process. The AFMAG's recommendations together with the Secretary's program, identified over 175 recommendations for improvement.

Before addressing some of the major areas we are concentrating on in improving our procurement system, I must emphasize that the problems we've had in the past were not caused by poor performance on the part of our requirements and contracting working level personnel. These people were generally doing a good job in implementing programs consistent with the existing resources and policies provided by management. It was management's policies, procedures and especially the lack of adequate resources that formed the primary cause of the

problem...not shoddy performance by the people in the trenches of spare parts acquisition. We have found that our people have for the most part been doing a very good job in spite of the examples to the contrary we have discovered in our contracting processes. Figure 6 represents the results of studies we made in our attempt to focus in on the serious problems in our procurement system.

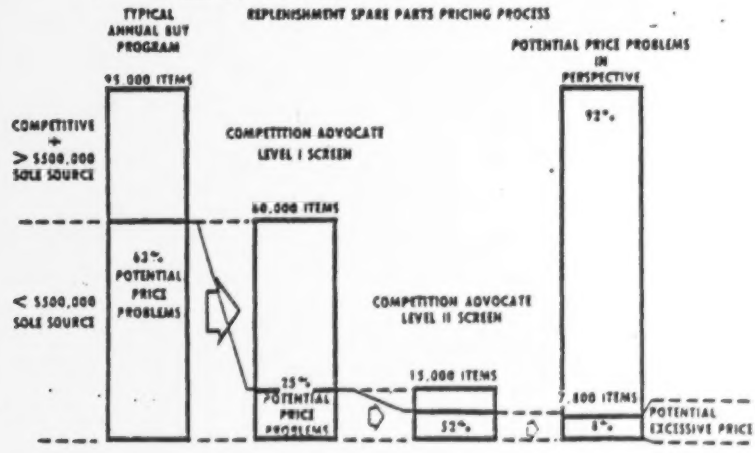


Figure 6

Note that while we buy over 95,000 replenishment items during a given year, slightly over 8%, or about 7,800 of these items, fall in the category of potential problems in prices. The majority of the contracting effort is found to be priced fairly, either through the market place by competition or through the processes of in depth negotiation using cost and price analysis techniques.

Nonetheless, the 8% target area represents a problem of sufficient magnitude to warrant taking actions to insure that the deficiencies of the past are not repeated in the future. We have stepped up to that responsibility and while we cannot cover at this time all the various initiatives we are taking, we want to share some of the more significant ones.

Most importantly, we are correcting the inadequate and faulty policies and procedures; we have made the first installment toward providing adequate resources; and we are seeing positive results in the form of concrete savings. This testimony will highlight a number of the initiatives being taken and share some of the success stories we have experienced to date.

The many recommendations for improvement addressed two major problem areas, the need for increased competition and improved pricing. My comments will address these areas, some of the AFMAG's more significant recommendations, the Air Force Logistics Command's initiatives and progress to date, and our prognosis of what lies ahead.

Increased Competition.

It's acknowledged that a competitive market place will bring fair and reasonable spare parts prices. AFMAG pointed out that, from 1973 to 1982, the Air Force's spare parts competition rate declined from 38% to 21%. Contributing to this were DoD directives which, recognizing limited manpower availability, required screening of hi-dollar value spare parts, representing at least 80% of the dollars expected to be obligated during the year, for breakout to actual manufacturers and competitive

reprocurement. The Air Force typically screened down to an annual buy value of $7,500, and for the most part, low value items below this threshold were not typically scrutinized for breakout. Additional contributing factors were the fielding of new weapon systems for which it was difficult to achieve breakout or competitive reprocurement due to on-going engineering changes; inadequate or missing engineering data and data for which the Air Force does not have full rights for use in competitive reprocurement; and, lack of sufficient manufacturing sources for some of the items we buy.

The AFMAG summed up the problem as having three facets: lack of accountability in the then existing system to assure there were acceptable levels of competition; second, when we do decide to compete a spare part, we need to have access to adequate engineering data to support us; and third, we obviously have to have sufficient manufacturing sources to produce those items.

Competition Advocate.

The AFMAG answer to the accountability issue was to expand and strengthen the AFLC Competition Advocate Program. This major program incorporates the original AFLC Competition Advocate Program, begun in January 1982 and the expanded responsibilities which were assigned to address the AFMAG concerns. In AFLC headquarters, competition advocacy is headed by a Colonel and a staff of technical and contracting people. It's on an organizational level with each of the other Deputy Chiefs of Staff responsible for acquisition. We also have competition advocates at each of our buying activities. Our program

addresses the past problems of lack of accountability for competition and breakout; adequacy of engineering data for reprocurement; and, expansion of manufacturing sources. At the field activities, the Competition Advocate reports directly to the organization commander, who is held directly responsible for obtaining competition to the greatest extent possible.

The Competition Advocate reviews "noncompetitive" requirements for supplies and services to assign an acquisition method code. Its review may lead to several conclusions about a potential buy. From a technical standpoint, it may find that an item is clearly sole source and should remain so, that the current buy should be competed or broken out to direct buy from the actual manufacturer; or that, although an item is sole source for the current buy, competition (or breakout) can be developed for future buys if quantities are right, a qualified source can be developed and engineering data is available. From a pricing standpoint, a technical review of past prices indicates whether past prices paid are considered reasonable and, if not, provides a "target price" for use in future negotiations.

The Competition Advocate at each of our field buying offices has three main elements: source development, engineering data management and price appraisal. Source development is the primary point of contact for firms wanting to do business with the Air Logistics Center. It seeks out new sources capable of meeting our needs and reviews and comments on the adequacy of sole source justifications. The engineering data management function performs acquisition method code screening; considers

breakout to prime contractors' subcontract sources when the prime contractor adds little or no value to the acquisition; and, identifies qualified sources. This engineering data management also compiles engineering data packages for competitive buys and, in doing so, examines them for adequacy and quality and challenges proprietary rights claims. The third element, the price appraisal function, develops "target prices" for items, either through value reviews of their historical price or detailed estimates of the costs and profit which are considered appropriate for manufacture of the item. These "target prices" are given to the buyer for use in negotiations. Price appraisal also assesses the probable price for varying quantities and recommends optimum buy quantity alternatives. It also evaluates individual reports of suspected overpricing submitted under the Air Force "Zero Overpricing" program and recommends action be taken to obtain refunds when previous overpayment is apparent. I'll address this price appraisal function in a little more detail later in my testimony.

In the first ten months of FY84, over 51,000 items have been screened for acquisition method codes. So far, 54.6% were coded for sole source direct purchase from vendors as compared to a cumulative rate of 57.3% for prior fiscal years. And, 43.7% of the items reviewed have been coded for competition as compared to a cumulative rate of 39.8% for prior fiscal years.

From the beginning of Fiscal Year 1984 through mid-May, $28 million has been saved through new competition and at least $3 million due to first-time breakout to actual manufacturers.

These savings are what have been captured from data presently available in the command's management information systems. Efforts are under way to identify savings from the use of target prices and improve the data base and collection methods to identify all competition advocacy savings.

I must point out that what we're doing in terms of source development, engineering data management and acquisition method code screening have, for the most part, been done in the past. However, by placing those functions in a single and highly visible organization, reporting directly to the center commander, we have established accountability, placed greater emphasis and assigned the resources necessary to eliminate the overpricing of spare parts. In FY83 we had approximately 160 manpower positions dedicated to what are now competition advocacy functions. We've increased our manning to 513 in FY84 and anticipate an additional increase to 1478 authorizations in FY85. These manpower increases will increase the quality and quantity of screening, thus increasing competition and the breakout of items to purchase from actual manufacturers. We must, however, keep in mind that we will always have some situations where competition or breakout is not possible; such as where an item's design is unstable or safety of flight considerations are involved.

The Competition Advocate Program has increased the awareness of our work force of the value of an item by emphasizing the opportunities and benefits of competing an item, developing new sources, or buying direct from the actual manufacturer.

Success stories abound. For example, a buyer at Ogden Air Logistics Center was evaluating a $113,000 proposal for 172 electronic arrestors. He discovered that the prospective contractor was obtaining the item from a smaller manufacturer. The result was a direct buy from the manufacturer at a savings of $57,000 plus a 54-week improvement in delivery.

At San Antonio Air Logistics Center we purchased 86 J60 engine couplings (Figure 7) from the actual manufacturer for the first time and saved $3,249. In another case, we bought 13,700 J60 engine pins (Figure 8) from the actual manufacturer and saved $10,138. In yet another case at Oklahoma City, the first time competitive buys of 9,035 TF30 engine components (Figure 9) produced a savings of $1,242,659.

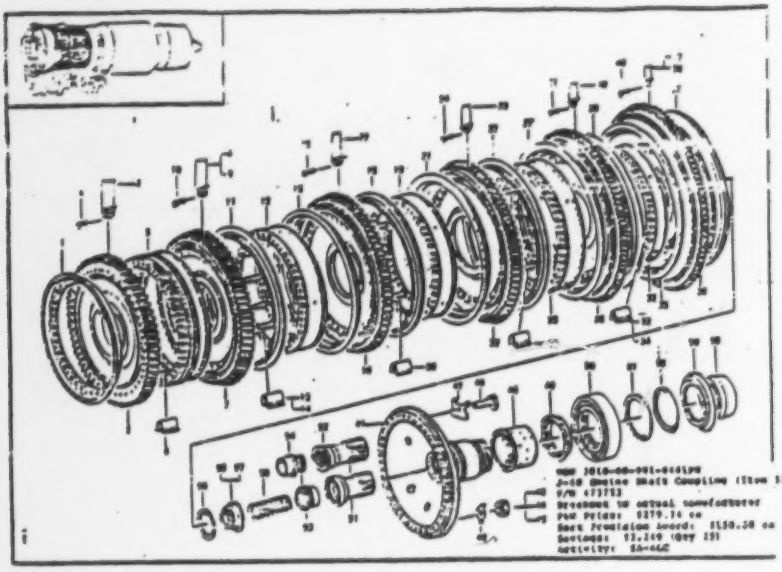


Figure 7

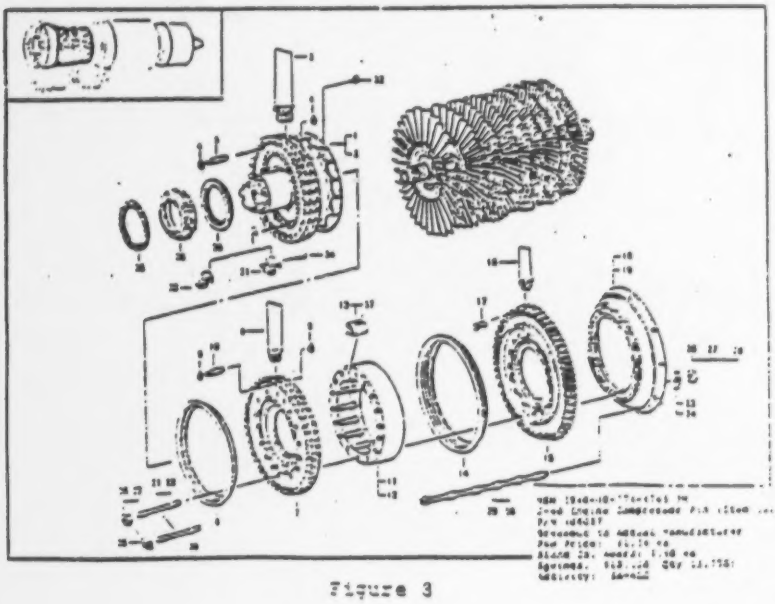


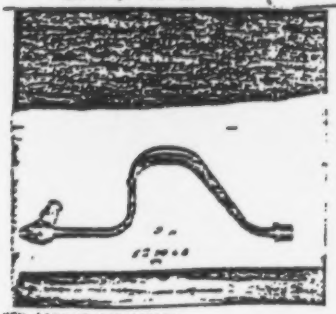
Figure 8

NSN 2840-00-947-0690PQ
TF-30 Manifold Assembly
P/N 519983
Comp. Breakout from Pratt & Whitney (P&W) to Ecrolor Ind. Corp.
P&W Price Price: $312.14 ea
Ecrolor Awards: $129.60 ea
Savings: $288,955.84 (Qty 1,136)
Activity: OC-ALC

NSN 4710-00-948-1359PQ
TF-30 Engine Tube Assembly
P/N 560787
Comp. Breakout from P&W to Tube Bends
P&W Quote: $310.20 ea
Tube Bends Award: $180.00 ea
Savings: $346,710 (Qty 1,050)
Activity: OC-ALC

NSN 2840-00-947-0689PQ
TF-30 Engine Elbow Assembly
P/N 519969
Comp. Breakout from P&W to Dell Mfg.
P&W Quote: $95.45 ea
Dell Mfg Award: $80.72 ea
Savings: $75,488.29 (Qty 3,173)
Activity: OC-ALC

NSN 2840-00-947-1491PQ
TF-30 Engine Elbow Assembly, Primary Fuel Supply
P/N 519973
Comp. Breakout from P&W to Dell Mfg.
P&W Price Price: $95.39 ea
Dell Mfg. Award: $57.77 ea
Savings: $83,678.79 (Qty 3,219)
Activity: OC-ALC



NSN 2840-00-947-3669PQ
TF-30 Engine Manifold Assembly
P/N 520064
Comp. Breakout from P&W to Lewis & Saunders
P&W Price Price: $275.43 ea
L&S Award: $130 ea
Savings: $144,681.39 (Qty 1,183)
Activity: OC-ALC

NSN 2840-00-948-.356PQ
TF-30 Engine Tube Assembly
P/N 560791
Comp. Breakout from P&W to Tube Bends
P&W Quote: $315.39 ea
Tube Bends Award: $180.30 ea
Savings: $341,942.76 Qty 1,304)
Activity: OC-ALC

Figure 8

Improved Pricing.

Besides the need to increase competition, the second major objective of the AFMAG recommendations was to insure that the Air Force pays a fair and reasonable price for each spare part that we buy. Small quantity purchases and certain pricing techniques were the major factors driving some spare parts prices far beyond their intrinsic value. Past underfunding of requirements and our failure to consolidate quantities for economic buys had been previously identified as contributors and were also highlighted by AFMAG.

We approached this objective by addressing both our buy practices and our pricing procedures. In other words, we're also concentrating on assuring that the prices that we do pay are fair and reasonable.

Buy practices.

This year, for the first time in AFLC, we issued special buy guidelines to our Air Logistics Centers to emphasize multiyear contracting; yearly buys; minimizing of quantity changes during buys; complete purchase request initiation; and, consolidation of requirements. All of these improved buy practices are only possible because of the improvements in spares funding in the last three years. In the earlier environment of extreme underfunding, techniques that attempted to achieve efficient economic quantities to purchase were inevitably frustrated.

Multiyear Buys.

A major thrust of these guidelines is expansion of the use of multiyear contracting to the buying of spare parts. Although

this initiative was started before the recent high level of concern regarding spares pricing, its use for buying spare parts was given greater momentum through increased emphasis. Nearly 300 FY 1984 candidate buys of spare parts were preliminarily identified by the Air Logistics Centers for multiyear contracting. These ran the spectrum from relatively small dollar buys to multi-millions of dollars. We are not satisfied with the results of our initial efforts in this area or with the number of multiyear contracts we will award during 1984. But, it's a start in the right direction. There are ongoing initiatives at HQ AFLC to further improve our methods for identifying candidate items for multiyear buying. The savings we will experience will not only include lower direct costs; but also, stem from a lower long term administrative cost of buying. Once a multiyear contract is established, the following years' buying will consist of a relatively simple funding action rather than a complete annual reprocurement action. The few successes we have had tell us we're moving in the right direction. For example, Warner Robins ALC recently awarded a $991,440 multiyear contract for primary and auxiliary indicators (Figure 10) for the AN/ALR-69 system with a savings of $48,776. We are stressing the implementation of this initiative and are intensifying our training of both item managers and buyers in this important initiative. We plan to provide added training in multiyear contracting potential so that FY 1985 will show significant improvement in this area.

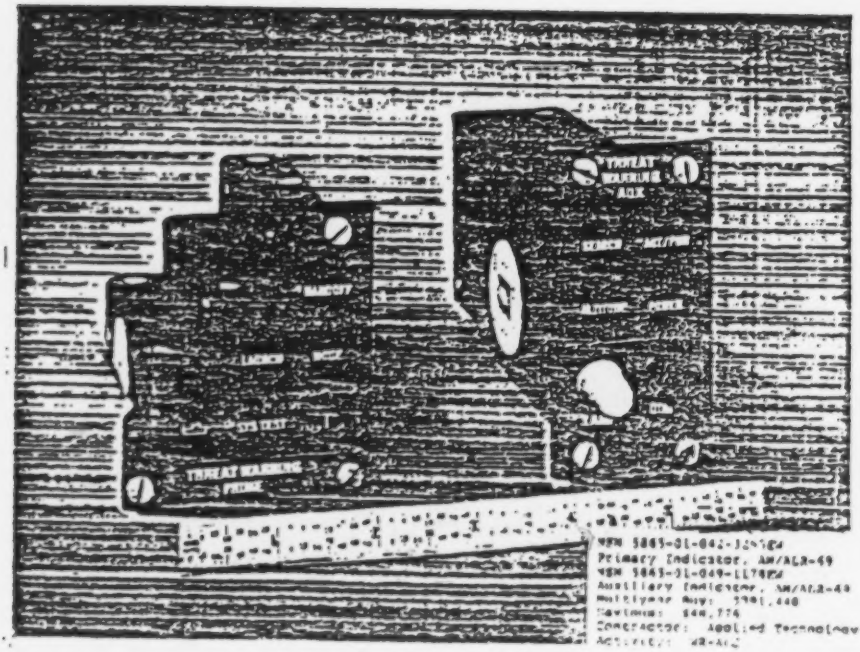

THREAT
WARNING
AUX
MARCOT
LAUNCH
SYS TEST
THREAT WARNING
PRIME

Figure 10

Yearly Requirements and Consolidation.

One of our more significant initiatives results in much smarter buying of parts. In the past, we were driven, primarily by a lack of complete funding of our programs, to buy smaller quantities more frequently. This practice continued even when the funding of spare parts improved in late 1982. With this improved funding level for spares, we have now mandated that, on those smaller dollar value items which are stable in terms of usage and design, we will buy at least a full year's requirement each time a purchase request is initiated. Many of the suspected overpricing cases of the past could be directly attributed to the buying of very small quantities of an item rather than an economic production quantity. The primary basis for the resolution of this problem is this Administration's initiative to provide the needed funding to enable the purchase of our valid requirements. Collectively, we are solving this problem and will continue to revise policies and data systems to insure that it remains solved.

Another of our initiatives calls for the consolidation of items to be purchased from the same firm or to be purchased competitively from the same firms. This initiative not only provides a better opportunity to reduce cost and make a better buy, but it also makes the buying process administratively more efficient for both contractors and the Air Force. In one recent sample taken at San Antonio Air Logistics Center, consolidation resulted in 100 purchase requests involving 112 separate line

items being combined into just 15 awards. In another recent San Antonio sample, 147 purchase requests involving 243 separate line items were combined into 13 solicitations. At Oklahoma City ALC, consolidation resulted in 914 separate purchase requests involving 1,246 individual spare parts being combined into just 15 contracts. At Ogden ALC, requirements for a regulator (Figure 11) were consolidated, increasing the total quantity to a more economic manufacturing lot, resulting in a unit price reduction from $2,504 to $2,187, for an overall savings of over $31,000.

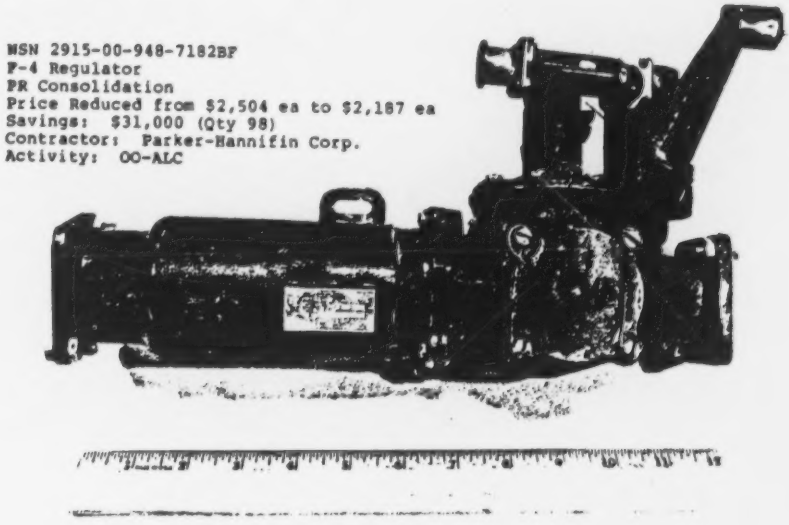


Figure 11

To monitor our efforts in buying annual requirements and consolidating requirements where possible, we are quarterly tracking the quantities of each item we're buying and the number of times each year we're buying the same item.

Pricing Procedures.

Pricing practices of the past were developed to cope with an increasing workload which occurred without commensurate increases in manpower resources to do that work. Many of the overpricing allegations were the direct result of these past pricing policies. For example, a buy of 100 items would be priced by concentrating our effort on the few high dollar value items representing 80 to 90 percent of the dollar value of the total requirement. These few items would be priced very carefully. The buyer would then compute the percentage difference between the price proposed and the price negotiated for those few items and simply apply that price difference to all the other proposed prices in the requirement. While the total contract price was properly determined to be fair and reasonable, the individual unit prices of many of the items in the total contract were not always representative of the true value of those items. Some items were indeed overpriced when looked at individually. We have now implemented new pricing policies and procedures which will retain most of the same administrative efficiencies included in the past practices; but, at the same time, insure unit price integrity and reality of each of the items in the buy. Here are some of our initiatives in the pricing arena.

Spares Management Analysis and Review Technique (SMART)

For negotiated purchases under the threshold for contractor submission of certified cost and pricing data our SMART technique applies. This AFLC technique brings the spare parts buyer into the Competition Advocate review analysis system mentioned earlier and permits taking full advantage of the skilled resources of that organization. It offers the buyer simplified processing of low dollar value spare parts buys. It is an economical approach to pricing small purchases and negotiated purchases where certified cost and pricing data is not obtained. SMART insures that each part is fairly priced. It should essentially eliminate cases of "excessive" unit prices for parts. Here's how SMART pricing works in a nutshell.

There's a two-level Competition Advocate price appraisal process (we call the PACER PRICE review). Level I is a subjective review of an item's previous price. This is done by a cost estimator who compares the item's previous price against a visual inspection of the item or its drawings. Experience now shows that approximately 67 percent of the item prices are "reasonable" and, therefore, are so identified to the buyer. The buyer will then apply normal pricing techniques to those proposals over $25,000. For proposals under $25,000, the buyer will develop a position using procurement history.

Those items not passing the Level I review and those for which the buyer is unable to negotiate a reasonable price are subjected to a Level II review by the Competition Advocate.

Competition Advocate Level IT price appraisal consists of an engineering analysis and estimates of material, labor and packaging cost. This is based on examination of a sample of the item itself and/or of its detailed drawings. To this analysis, the Competition Advocate will add appropriate overheads and profit.

This product is given to the buyer who may use it as a price objective or target in negotiations with the contractor.

In the event the buyer is still unable to negotiate what is considered to be a reasonable price with the contractor, the last contractor offer is reviewed by a "resolution cell" made up of appropriate management, business, and engineering personnel. If these officials and technicians cannot accept the contractor's position as reasonable, they may choose to develop other alternatives (for example, reverse engineer, develop a new source, manufacture in-house or any number of other possible alternatives). They may also decide to reduce quantities of the current buy during development of an alternative.

SMART pricing began in April 1984. The Air Logistics Centers are setting up local procedures and training their buyers in its use. Through SMART, buyers should realize significant time savings in negotiation preparation. Much of the research on prior buys will have been performed and a target price established before the buyer receives the purchase request for an item. The buyer should then be able to concentrate on other contractual aspects of the negotiation.

Pricing Analysis and Review Technique for Spares (PARTS). For larger purchases, involving many separate items, our Price Analysis and Review Technique for Spares (PARTS pricing) applies. This concept, initially developed by AFMAG, is being implemented in AFLC. It assures that every line item on an applicable contract is reviewed and analyzed. It applies to the pricing and negotiation of orders for spare parts which, after Competition Advocate screening, remain sole source. First, high dollar value items are individually priced, using cost and price analysis supported by Department of Defense contract auditors' review. Remaining items of low dollar value receive a subjective assessment of value and are compared to an illustrated parts breakdown, picture, drawing or sketch of the item, including a short written description of labor, material and engineering characteristics. This review will determine if the price offered by the contractor appears fair and reasonable.

Those items failing this test are then subjected to the same cost and price analysis as the high dollar parts. Those passing the test are sampled and analyzed to determine what percentage reduction should be applied to these parts to reflect any overall negotiated price reduction and to assure price reasonableness. All items are value reviewed. This should preclude past situations where a part has carried a price many times its intrinsic value.

PARTS pricing was begun in April 1984. Field activities are currently putting the method into effect. Through PARTS, both the Government and contractors will place greater emphasis on the

inherent value of items and on the importance of maintaining unit price integrity on multi-line item contracts.

Formula Pricing Arrangements

While the Competition Advocate, through its PACER PRICE activities, reviews items for competitiveness and price reasonableness, large numbers of spare parts items will continue to be furnished by prime development contractors. In these situations, it is essential to have a method for efficiently pricing those items for which complete cost and pricing data is not required.

Through a formula pricing arrangement, the Air Force and the contractor agree in advance to a system of cost estimation, accounting, forecasting and pricing to be used for pricing orders with that contractor. The Air Force and contractor agree to the pricing method, material, labor and overhead factors to be used in pricing an item. The arrangements are closely reviewed to assure they provide proper pricing and are examined periodically by the Defense Contract Audit Agency to assure the factors used reflect current economic conditions, plant loading, etc.

Formula pricing arrangements are used only on individual orders whose total value is less than $500,000. The buyer must still determine that each individual item's price is fair and reasonable as required by AFLC's SMART pricing procedure.

Formula pricing provides an efficient means of pricing spare parts with an individual contractor. It gives a high level of confidence in pricing accuracy while freeing both Air Force and contractor personnel to concentrate on higher dollar value and

more complex proposals. We also benefit from the ability to place items on contract faster, thus providing better support to the inventory manager.

We are emphasizing greater use of formula pricing arrangements, while at the same time, setting up controls to assure each is carefully constructed and monitored to provide fair and reasonable prices. We now require the agreements to be based on the "Truth in Negotiations Act," with DCAA audit of proposed factors. Headquarters AFLC review and approval is required on each agreement. We also require that each agreement contain provisions which require refunds of any overpricing caused by the contarctor's failure to adhere to the agreement.

Buyer Tools

As I said before, low value items have been the culprits in a majority of the reported "spares overpricing" cases. Already overburdened buying staffs were properly concentrating on the higher-dollar items because they represented the greatest potential return for time invested in analysis and negotiation. AFMAG recommended that additional buyer tools be developed for those purchases in the $25,000 to $500,000 range. AFLC surveyed its buyers and found that one area of need was an effective negotiation checklist. These are being developed and will soon be in the hands of all spare parts buyers. Also, each month buyers will receive price index work sheets containing the most recent Producer Price Index (for current and historical trends) and Data Resources Institute inflation forecasts. These will give the buyer a quick comparison between these indices and the contractor's proposal for similar periods.

A major factor in price variances is as mentioned earlier, quantity purchased. Price of a part can quickly escalate as quantities are reduced. Buyers need a nomograph (a graphic representation of numerical relationships) depicting this relationship between quantity and unit price. It should prove effective in alerting buyers to the possibility of price breaks as quantities increase. AFLC is working to develop such a tool for buyers.

Another improvement being made is in the item price history record given our buyers. Until recently, buyers received a printout from a data systems history file showing the last three years' transactions for an item. AFLC has now added the Competition Advocate target price to that record and is making further improvements to give each buyer a detailed cost element breakdown for each item receiving the Competition Advocate's Level II review discussed earlier.

These tools and others will assure the buyer has a complete set of information to prepare for negotiations.

Buyer Knowledge of Product.

In AFLC's review of spares overpricing, it became apparent that reliance totally on price history was insufficient. What had been paid in the past was not necessarily a valid indicator of what should be paid. One problem was that the buyer often knew the product by only a part number or perhaps only a very technical description. This often gave no clue as to the intrinsic value of the item. However, with a photograph or drawing of the item, the buyer could have been alerted to excessive costs or cost allocation problems.

All items are, as mentioned earlier, to be reviewed by the Competition Advocate. Product knowledge is a key element of that review. The Competition Advocate analyst (or team) will examine a sample item, photograph or drawing so that they will be alerted to possible overpricing.

However, efforts are also under way to develop a practical means of providing pictures of items to buyers to better acquaint them with the item during purchase. This should result in a more thorough review of an item's worth and ultimately improve the pricing of some items while essentially eliminating cases of overpricing in the future.

Among additional initiatives being explored to improve buyer awareness are:

o Buyer visits to principal contractor plants to familiarize them with manufacturing methods and achieve a better understanding of the cost of an item.

o Setting up standard item resource rooms for buyers. There, the most commonly purchased items would be available for examination and evaluation of physical characteristics and price history.

Pricing Assistance to Buyers.

One other pricing initiative we have implemented involves the availability of co-located price analysts to assist the buyers in pricing lower dollar valued buys. In the past, our practices essentially restricted the use of professional price analysts to the higher dollar value buys. Our buyers were required to independently price these smaller purchases. Again, for the most

part, our buyers have done a very good job, but because of these policies and procedures of the past, some items could be looked at after-the-fact and a determination made that, under differing circumstances, lower prices could have been achieved. The help of these co-located (in-house consultant) price analysts does prove beneficial in the more difficult buys of low dollar value cases. For example at San Antonio, during the seven month period ending May 1984, a total of 1,085 small dollar value actions received this special pricing assistance and a total of $5,579,000 reductions in cost are recorded. The consultant price analysts were able to advise the buyer of important cost considerations and the buyer was able to negotiate better prices, resulting in significant cost savings on high volume/low dollar value requirements.

These are some of our initiatives to address the major problem areas, but they are not all inclusive of the many efforts we have underway in the acquisition arena. Of course, we have been and will continue to seek voluntary, and involuntary, refunds where we discover overpricing to have existed. For example, from 1 February through 30 June 1984, we received eight voluntary refunds, totaling $42,867.92. In August, we received a refund of $10,162 from a large aerospace firm. For the period from 1 October 1983 through 31 March 1984, AFLC also recovered $1,614,912 in the settlement of defective pricing claims. We currently have 63 defective pricing cases in work, involving more than $31,000,000 in questioned costs.

Manpower.

We've also taken steps to place additional manpower in the contracting function. Last October we implemented a program called "PACER PRODUCE." Some 300 people were recruited, hired and trained in the basics of DoD contracting as a first increment to offset the severe manpower shortages we have been living with. Our aim was to get the best people available to supplement the work force in areas where they were needed most, spares acquisition. We trained them at Wright-Patterson Air Force Base to avoid the work disruption in our field buying offices normally associated with training new hires. Once trained, each was assigned to an Air Logistics Center.

These people joined an existing contracting work force of professionals, almost 60 percent of which have at least a bachelor's degree. Over 90 percent of these PACER PRODUCE trainees have college degrees. And, through targeted recruiting, 30 percent are also minority, compared to the 15 percent already in our GS-1102 contracting series work force.

In just a few months, the trainees have taken on a large share of purchase requests under $25,000 and a few, with prior related experience, are making larger dollar value purchases.

PACER PRODUCE has freed more experienced buyers to handle the most complex buys and concentrate on pricing and negotiating, assuring that fair and reasonable prices are paid for spare parts.

A follow-on PACER PRODUCE II effort is now under way which will bring an additional 600 persons into contracting.

Contracting Data Automation.

We would be remiss if we did not give the Committee some feel for the workload of a typical buyer and address the data systems that support him. Most of our smaller dollar value actions are typically handled by buyers at the GS-7 or GS-9 level who earn $17,000 to $25,000 per year. An averge buyer in AFLC carries an on-hand workload of about 70 purchase requests. At San Antonio, the volume is the highest in AFLC and at this time the average buyer must award at least one contract every calendar day to keep up with the work. To make matters worse, we have been accomplishing our procurement processes with data systems that were put in place over fifteen years ago. While we have enhanced these systems from time to time, a fifteen year old system is inefficient compared to those of today's technology. The demands of our fast-paced, rapidly growing contracting workload far outstripped the capabilities of these data systems. The old systems cannot handle a wartime surge in contracting workload; they do not give our buyers and managers the information or tools they need to effectively price and manage spare parts; and, they cannot be easily modified or expanded to handle changing information requirements. In short, our buyers have been faced with a very high level of work and have been provided outmoded data systems to assist them. While these shortcomings have been identified for years and effort made to provide fixes, it is only recently that management support at high enough levels could be obtained to solve these problems.

Each of our Air Logistics Centers now has a standardized

Automated Contract Preparation System (ACPS). The system uses laser equipment for high-speed printing and a menu assisted data entry system (MADES) to help clerks quickly prepare complex contractual documents. The system has worked so well that several other government agencies are now in the process of adopting it for their own contracting activities. We are also in the process of installing another system which will give our contracting people several badly needed capabilities. This initiative will give our buyers and managers on line access to the contracting data in our current systems as well as tools to assist them with spare parts pricing and negotiations. System installation will be complete in February 1985. Our systems still have a large number of antiquated, manually intensive processes which require time and money to address. For the long term, we have the contracting data management system (CDMS). Over the next six years it will replace all of our outmoded contracting systems with an efficient, totally integrated contracting data base.

To date, our automation initiatives in contracting have reduced manual efforts, given us more accurate data, and helped us cope with a growing workload. The initiatives we are working now will help us negotiate better prices, reduce administrative leadtimes, and provide wartime surge capability. The final result is better contracting support to our combat forces.

Industry Cooperation.

Of course, without industry's top level understanding and support for our efforts, success would be limited. We recognized this at the outset and began conducting quarterly meetings

between the AFLC Commander and the chief executive officers of the top firms with whom the command does business.

The success of those meetings prompted AFLC's Deputy Chief of Staff, Contracting and Manufacturing, to hold a conference with counterparts from the command's top 50 contractors. Industry representatives were told of the various Air Force and AFLC initiatives to introduce realistic competition into the system and improve spare parts pricing and the overall management of the spares acquisition process.

As a follow-up to this meeting, separate meetings are being held with representatives of those firms to give each an opportunity to share their own plans and accomplishments in support of the command.

In addition to these meetings, our Oklahoma City Air Logistics Center hosted the Worldwide Air Force Pricing Conference in March of this year. This conference served as a forum for over 300 industry and government acquisition representatives to exchange views and gain a mutual understanding of the various initiatives to enhance Air Force contract pricing.

Industry response to our efforts has been positive and encouraging. A major aerospace industry trade association reports that its members are pursuing numerous initiatives of their own to improve spare parts acquisition and lower spares costs. As a general rule, its members have taken actions to:

o Identify items with breakout opportunities.

o Notify buyers of economic order quantities to permit evaluation of the acquisition of additional quantities if cost savings are possible.

o Identify items to which the contractor does not add "value," along with their most recent sources, so that these items may be bought direct from the sources.

o Review their own pricing policies and practices to establish closer control and avoid price distortions.

o Establish corporate breakout advocates for high level management review of items.

Moreover, we're already seeing some impressive actions by many of the contractors with whom we do business. Here are some of the efforts underway:

o One manufacturer provided a list of 242 noncritical spare parts and their sources for direct buy.

o A landing gear manufacturer identified some 900 items, consisting of noncritical items eligible for competition and safety critical items which could be bought directly from qualified vendors.

o A major aircraft manufacturer has established a Best Buy Advocate office to complement the command's Competition Advocate efforts and assure economical procurement of spare parts. It also established an internal audit system to verify price integrity.

o A major electronics manufacturer has established a policy to provide available source information for breakout of those spares for which it adds no labor or material value.

o Several companies are participating with the Air Logistics Centers in Memorandums of Understanding which emphasize cooperation in achieving price control for spare parts.

o A manufacturer of guidance and control systems is arranging for vendors for out-of-production parts to supply those directly to the Air Force.

o Another major aircraft and electronics manufacturer has established a spare parts policy council, chaired by a vice president, displaying its top level commitment to efficiently and economically supply spare parts.

And finally, a key factor in enhancing the possibility of competition for the items the command buys is the small business contractor base. We are continually looking for new ways to expand that base. We recently produced a video tape, "Small Business Opportunities with AFLC," which we are distributing to state and local chambers of commerce and to trade and business organizations throughout the country. As more small businesses become familiar with the command's needs, further opportunities for competition savings will develop.

Looking to the Future.

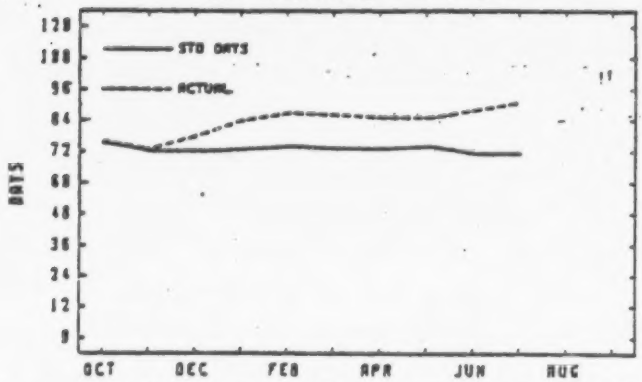
Acquisition practices in all Government agencies have undergone extensive change for the better within a very short period of time. AFLC has undertaken its own initiatives while implementing the substantial revisions in contracting policy and procedures directed by DOD and Congress. This was accomplished, without disrupting the mission, only through the tireless efforts of dedicated personnel. Another good example is the intensive training of field personnel and reconstruction of computer programs by our contracting staff which ensured a smooth transition from the Defense Acquisition Regulation to the Federal Acquisition Regulation on 1 April 1984.

The overall results have been encouraging. The $31 million in documented savings from initial competition and first-time breakout to actual manufacturers, is only part of the savings the command has identified in Fiscal Year 1984. Improved contracting has reached beyond competition, breakout, and target price initiatives. We're concentrating on stabilizing our buy requirements and striving to take advantage of the economics of larger quantity buys. We're also identifying disproportionate prices by paying close attention to the individual prices of items we buy. And, we're emphasizing detailed price proposal reviews and tougher negotiations. We recognize that what we're doing to address DOD and Congressional concerns has not been done without cost. We've already seen the average Procurement Administrative Lead Time for the Air Logistics Centers to place a typical contract increase from 76 days at the beginning of FY84 to 91 days in the month of July (Figure 12). This is a concern because we must have sufficient items in our pipeline to buffer us during contract placement and increased lead time hampers our ability to support the Air Force mission. But, we recognize these problems and have addressed them in our planning.

We feel strongly that the investment we're making is necessary to avoid the problems of the past and that these changes will bring about substantial savings in the future. Ahead lie our major challenges in "institutionalizing" these many initiatives to maintain and promote those savings.

41-709 O - 85 - 6

ALC. - WEIGHTED AVERAGE PROCESSING TIME
BUY ACTIONS - FY 84



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
ACTIONS	6281	6778	6361	7898	6235	7166	6250	7876	7639	9229		
STD DYS	73	72	72	73	74	73	73	74	71	71		
ACTUAL	76	73	78	84	87	86	85	85	88	91		
VARIANCE ACT-STD	-.8	3	6	11	13	13	12	12	17	20		

Figure 12

RECOMMENDED CHANGES/SOLUTIONS

Current Legislation

Air Force Initiatives Are Working.

We realize the problems we have had in the past which led to the existence of suspected and validated overpricing of spare parts were essentially management problems, not defective people problems. We have aggressively identified and implemented initiatives to correct those problems and we know the acquisition system is improving because we see the results in hard savings.

In addition, recent reviews of progress to date by the Office of Federal Procurement Policy and the DOD/IG indicate that the initiatives we have taken will prevent similar problems from occurring in the future. Frankly, the continued imposition of additional initiatives through further legislation or policy directives will either duplicate or be a redundant and costly overkill that could have an opposite and undesirable impact on our already successful full plate of initiatives. We respectfully urge your honorable committee and all the members of Congress to very carefully consider any further action in the form of new legislation until such time as it can be determined that the actions we have undertaken have not been fully effective. The continued implementation of new legislative initiatives, I'm convinced, are aimed at fixing a system that is no longer broken. Let me share with you my views on some of the recent enacted legislation and on some of the pending legislation.

Public Law 95-507.

Public Law 95-507 is intended to give the small business community an ample opportunity to bid on government contracts. AFLC fully supports and is a proven advocate of small business participation in the furnishing of supplies and services we require. Over $1 billion in AFLC awards go to small businesses and we meet our goals. Although we believe that Public Law 95-507 has generally been a workable implementation of our national policy to support small business, certain aspects of this law should be reconsidered in the interests of efficiency of the defense procurement systems.

Specifically, the requirement to furnish bid sets to all small businesses who request them has created a problem in our contracting shops. For your information, a bid set includes the solicitation, all applicable specifications and the aperture card drawings.

As required by statute, all solicitations over $10,000 are synopsized in the Department of Commerce Business Daily. Further, AFLC policy requires all sole source requirements, regardless of dollar value, to be posted in an area available to the public at this time and all competitive requirements over $5,000 to be similarly posted. This $5,000 threshold for already competitive buys has been perceived by some small businesses as a threat to their existence. We do not believe small business in general is impacted by limiting, to a reasonable amount, the number solicitations (bid sets) that are available for any given competitive purchase. We would point

out that these are situations where adequate competition already exists and where additional bidders generally increase administrative costs and provide little or no offsetting cost reductions.

In some cases, the cost of providing bid sets for all small businesses who have requested them exceeds the total cost of the purchased parts. In short, Public Law 95-507 forces us to spend more in administrative costs than the amount of the purchase. Further, there are indications that less than one-third of those who receive bid sets actually submit a bid. The impact on AFLC of providing unlimited bid sets is an increase in both cost and administrative lead time. To illustrate these two points, I would like to show an example of some actual procurements handled by Warner Robins Air Logistics Center. On four solicitations the cost of bid sets exceed the cost of the spare parts themselves (see Figure 13).

SOLICITATION MANAGEMENT

BUYER WORKLOAD IMPACT (FY84)

SOLICITATION	NR ISSUED	NR BIDS	AWARD AMOUNT	BID SET COSTS
83-36036	147	44	$5,490	$2,940
84-48845	110	27	1,031	2,200
83-85778	106	38	2,942	2,120
84-49048	148	43	4,269	2,960
84-48731	105	34	1,344	2,100
83-46276	100	32	1,594	2,000
83-82012	95	35	1,742	1,900
84-48836	91	31	2,057	1,820

Figure 13

The increases in costs are incurred by adding additional shifts and requiring extensive overtime to produce the necessary bid sets. The increased administrative lead time is experienced in satisfying all requests for bid sets which in turn creates a backlog in the workload, delays the processing of bid sets, even including bid sets which are requested too late to submit a bid before the prescribed closing date for final receipt of bids or proposals. The most crucial impact is the delay in contract award.

In consideration of these factors and in recognition of the fact that we are establishing effective and current bidders' mailing lists, we recommend that Title II, Chapter 3, Section 223, of Public Law 95-507 be repealed and/or changed so that contracting organizations are permitted to make a economically reasonable number of bid sets available to small businesses. We owe it to the taxpayers to assure a cost-effective small purchase procedure is used and we know that the requirement to respond to each and every small business request is not cost effective.

Public Law 98-72.

The intended purpose of Public Law 98-72 is to improve small business access to Federal procurement information and to promote competition. By way of background, the first objective of giving small business greater access to federal procurements is accomplished by changing the manner in which government publicizes notices of intended acquisitions, and establishing minimum waiting periods before making contract awards. There

is a mandatory 15-day waiting period after publication of a synopsis in the Commerce Business Daily before a competitive solicitation may be issued (30 days for research and development acquisitions). There is also a 30-day waiting period after issuance of the solicitation before the bid/offer/quote period may be closed. In addition, competition, the second objective, is to be promoted through steps taken in the approval of sole source contract awards. We may not, under PL 98-72, commence negotiations for award of a sole source contract with a value in excess of $1,000,000 in FY84, $500,000 in FY85, and $300,000 in FY86 and each year thereafter unless I or my deputy for Contracting has personally approved the authority to enter into such contract.

Impact:

Generally speaking, Public Law 98-72 has had an adverse impact on our administrative lead times and the workload associated with (1) processing sole source justifications over applicable threshold to HQ AFLC, and (2) delays in the acquisition cycle occasioned by the mandatory waiting periods pending synopsis publication. Initial indications are that the administrative demands of this law have required the dedication of two to three people within the contracting function and four to five within the material management function at each ALC. Also, we estimate 983 sole source justifications will be processed by AFLC activities for FY84, 1758 for FY85 and 3313 for FY86. The shortcoming of 98-72 is that it is based upon the concept that longer waiting periods and extra paperwork

requirements will remove the real world impediments to competition. We recommend the following changes:

1. Repeal of the law if possible.

2. Failing repeal, revision of the law in the following areas to ease the burden:

a. Exempt FMS customer-directed sole source requirements from the approval process. We are required to honor such requests when set forth in the Letter of Agreement, between the U.S. and the FMS country and a higher level official cannot effectively challenge such sole source situations. In fact, sole source approval authority should be delegable to field commanders. This authority is already retained in emergency situations; and, with the coordination of the local Competition Advocate office, exceptions and questions could be handled in a more expeditious manner. This could be done by bringing sole source justification approval authority in line with some of those included in Public Law 98-369 (i.e., Activity Competition Advocate level $100K - $1M; HCA or General Officer/equivalent SES level/delegee over $1M). (Agency Senior Procurement Executive - over $10M). However, as I will note in a moment, we don't believe a requirement should exist to forward sole source justifications to the Agency Senior Procurement Executive.

b. Approval level for sole source acquisitions should remain at $1,000,000 rather than decreasing to $300,000. In our considered opinion, the savings which might result from lower thresholds are not worth the additional effort and

expense that will be required (reference our estimates for processed sole source justification for FY85 using a $500,000 threshold and for FY86 using a $300,000 threshold) and the contracting lead time that will be lost.

c. Remove waiting periods for issuing competitive solicitations and making sole source contract awards. We can achieve the same result by extending the closing date on certain acquisitions to compensate for the lack of a 15-day waiting period - if such an action will truly stimulate effective competition.

Public Law 98-369.

The intended purpose of the "Competition in Contracting Act" is to make contracting more effective and more business-like. By way of background, some of the more significant features of the law are:

1. Requires "full and open" competition among all responsible sources.

2. Eliminates preference for formal advertising; establishes preference for competitive procedures using "sealed bids" or competitive negotiations. Included in the concept are present rules for architectural and engineering services, competitive selection of basic research proposals and multiple award schedules of the General Services Administration.

3. Excluding incumbents for competitive second sourcing purposes and limiting competition to just small businesses is permitted under competitive procedures.

4. Eliminates the exceptions justifying negotiation. Substitutes seven exceptions to competition (i.e., seven circumstances under which sole source procedures are allowed).

5. Notice of proposed noncompetitive contracts to be published in the Commerce Business Daily.

6. Competition Advocates to be established who must approve sole source justifications. Level of Competition Advocate involvement will vary with dollar level of the acquisition.

7. But for payments over $10M, the agency senior procurement executive in the Pentagon must approve the sole source justification.

8. Threshold for certifying cost and pricing data lowered from $500,000 to $100,000. The rationale here, of course, is to ensure that we can negotiate fair and reasonable prices on our smaller contracts.

9. Provides statutory basis for GAO to resolve protests by delaying award or suspending contracting within 10 days of award and provides very tight time limits on the submission of protest reports to the GAO.

This law will have a major impact on the way we do business in AFLC. The chief impact for the command is that we must retrain all our people in short order to meet the expedited implementation schedule. The new determinations required differ significantly from the file documentation we have used for the last 35 years in contracting. Also, the

requirement for Agency Senior procurement Executive approval on sole source justifications for procurements over $10 million will create another veritable paper mill. If we want to buy additional aircraft from the airplane manufacturer who designed and developed the system, the justification must still be approved in the Pentagon.

Lowering the threshold for certifying cost and pricing data will double our pricing cases, and drastically increase the workload in AFLC, DCAA and the contract administration community.

In addition, the new protest requirements will effectively diminish our contracting authority, by making it more difficult and cumbersome to justify contract award (pre-award protests) or contractor performance (post-award protests) even when those courses of action are appropriate. Many protests are unwarranted and most are not sustained; yet the defense procurement systems will grind to a standstill in each case. It will be virtually impossible to prepare a comprehensive product report and transmit it from the buyer at the contracting office all the way through the Air Force General Counsel to the GAO in time to meet the new requirements.

Don't misunderstand me. We like the tone of the CICA. We agree that the emphasis should be on achieving competition, not on the form or formality it takes for achieving "full and open" competition. Also, excluding the prime for competitive second sourcing purposes will both enhance competition and

expand our industrial base in selected acquisitions.

Recommended changes.

However, we have several recommendations to offer:

1. This law represents such a drastic change in the way we go business, that we need some relief from the expedited implementation schedule. In the absence of that relief in the form of some sort of phased implementation, the transition will likely be a rocky one and will have a dramatic impact on our ability to meet mission requirements through the contracting process.

2. Reference the requirement for agency approval on sole source justifications for procurements over $10 million, we believe that Pentagon referrals will only delay the procurement cycle and require extra paperwork, but will not remove real world impediments to competition. We are successfully attacking those impediments through the AFMAG implementation and other initiatives.

3. We believe the $500,000 threshold for certifying cost and pricing data strikes an appropriate balance between need and resources and should be our working threshold. To say it another way, we don't believe the savings which might result from the lower threshold are worth the additional effort expense, and disruption which will result from a $100,000 threshold. Also, the improved pricing techniques (SMART Pricing and PARTS) we discussed early will accomplish the end result.

4. We believe the revised protest procedures are

unnecessary, cumbersome, and will not support the legislative intent of the enhanced competition. The fact that the vast majority of the protests against our contracting actions are found to be unjustified suggests that this is a good example of working to fix a problem that doesn't exist--a case where the cure is worse than the disease.

5. Lastly, conflicts among 98-369, 98-72, and legislation now pending must be addressed and resolved if we are to have any chance of complying with the overall intent of Congress.

RECOMMENDED CHANGES/SOLUTIONS

Pending Legislation

Bid Posting and Synopsis

Several pieces of legislation are pending which deal with the public posting of proposed purchases and synopsizing requirements in the Commerce Business Daily. At the heart of these issues is the need for the government to receive the most value for its acquisition dollar through expanded competition. Air Force Logistics Command is in complete support of this objective. However, some caution should be considered in dealing with certain specific issues. First, the requirement that solicitations must remain open for at least 45 days after synopsizing would have a great impact on our procurement workload. It would have a negative effect on acquisition lead times, personnel efficiency and manpower requirements. Second, expanding the item description used in the Commerce Business Daily is noteworthy. A better item

description might attract additional bidders which would increase competition. However, the Commerce Business Daily should not become a substitute for the bid set procedure. If carried to an extreme this publication could become very unwieldy and lose its value as well as being a great burden for the government personnel involved with the synopsizing process.

The authority to charge a reasonable dollar amount for each bid set could be very useful to us. We feel if a nominal charge is made for each bid set that it would tend to discourage contractors who are not serious about submitting a responsive bid. A secondary advantage of holding printing and personnel cost to a minimum would also be realized. However, the real benefit would be the efficient use of personnel time and the shortening of the acquisition lead time. Reasonable prices and timely delivery would also be promoted since buying personnel could devote more time to bidders who are serious about the acquisition.

Legislation is pending which would require the posting (in public places) of all requirements in excess of $2500. For requirements that are sole source, the posting requirements are excellent ideas and may generate competition. For requirements that are already competitive, the "extra" competition derived from posting will not produce savings to compensate for the costs of producing bid sets which are required as a result of posting. Air Force Logistics Command asks that you reconsider these points when

reviewing pending legislation.

Qualification Process.

There are several provisions, acts and amendments purporting to be for the benefit of small business dealing with the issue of qualification of sources for spare parts requirements. In an attempt to enhance competition, decrease costs and increase the industrial base, there are legislative initiatives to prohibit the denial of acceptance of a small business offer on the grounds that it was not on a qualified products list or it was not previously approved as a source for a certain type or class of contract.

Another provision requires a contracting officer to refer to the Small Business Administration (SBA) a decision to refuse to include a product on a qualified products or similar list. The SBA may then include it if the agency's decision is found to be without a reasonable basis. This in effect directly relates to satisfying the minimum needs of the government.

Another provision requires the agency to reimburse small businesses for the cost of qualifying a product of their manufacture.

On the surface, these provisions appear to enhance competition and increase the industrial base, and, theoretically, lower cost and improve quality. However, in reality, the provisions have a serious negative impact on AFLC and the Air Force. In the defense business, decisions must often be based on safety of personnel, equipment and

performance factors, in short of factors other than economics. I believe that the Small Business Administration does not have the technical capability to involve itself in the process of determining technical competence of vendors for spare parts to be used on military aircraft. Selection of qualified sources and items would be less than cost-effective. These provisions would eliminate the authority of the military departments to establish and maintain lists of approved sources for spare parts.

It is my recommendation that the provisions discussed above not be given favorable consideration. I ask this in the interest of safety, cost-effectiveness and meaningful competition. Many of our spare parts items (including those with approved source lists) require very tightly controlled processes due to their critical application to safety of personnel and equipment. These critical designs and processes must often be operationally tested. The criteria does not exclude small business participation as evidenced by the significant number of small business firms who appear on these source lists. The authority for these critical design determinations should remain in AFLC, AF and DOD, where responsibility for personnel and equipment safety is vested.

Further, I recommend deletion of the proposed legislative provision that gives the Small Business Administration the right to appeal the contracting agency's decision regarding source qualification. If the authority is removed from the requiring activities (contracting officers)

the administrative appeal process would delay the contracting process and harm our support capability.

In summary, these kinds of initiatives will not serve the best interests of small business or the Department of Defense.

Breakout Procurement Center Representatives.

"Breakout Procurement Center Representatives" are to be established at each major Federal procurement center. The expansion of this activity is a direct duplication of the Competition Advocate's mission which is proving effective in achieving the objectives of Congress. These new breakout representatives would be tasked with reviewing procurement codes and evaluating whether the agency should change the code for the purpose of increasing competition. They also would review acquisitions under restricted or sole source conditions.

On the surface, these provisions would appear to increase breakout opportunities, enhance competition, reduce source restrictions, increase the industrial base, reduce costs and improve quality.

In reality, however, the significant impact on AFLC is that an unnecessary administrative process, or layer of bureaucracy, if you will, is added to the acquisition of spare parts and equipment. The result would be delays in the acquisition process and increased procurement lead times. Urgent requirements could be seriously jeopardized, thereby affecting accomplishment of the Air Force mission.

We recommend that these provisions not receive favorable consideration by the Congress or that those agencies who already comply by their own initiatives be exempted and not required to duplicate their efforts already underway. The proposed duties are already being performed by an established Competition Advocate function in AFLC. Competition Advocate offices will soon be adequately manned and trained, and are already obtaining significant savings in breakout reviews. Effective breakout of parts is occurring and competition is being enhanced. No real purpose will now be served in duplicating the procurement breakout process. And, in fact, the proposed breakout representatives would require reassignment of technical personnel at the centers, thus interfering with the established Competition Advocate functions.

Technical Data and Computer Software.

There are a number of bills pending dealing with the subject of proprietary rights for technical data and computer software. We certainly welcome any legislation which will help us clarify and break down the artificial barriers that keep us from increasing competition. The impact on the Air Force Logistics Command of increased availability of unlimited data rights could lower our overall cost of doing business and increase our industrial base. Specifically, we believe that increased competition could lead to better management of our scarce acquisition dollars and more efficient use of our human resources. Plus, we could shorten

the overall acquisition cycle time. Although availability of technical data is the primary reason for our low competition rate, proprietary rights restrictions are not the major problem. The more significant problems concern situations where data is incomplete, erroneous or totally lacking. However, the most difficult challenge we have encountered to date regarding proprietary rights is a very reluctant and skeptical industrial community. They view efforts to limit their proprietary claims as a threat to their existence. Further, they are concerned about obligating themselves to the government for subcontractor data which they feel is beyond their control. Contractor resistance makes the long process of negotiations even longer. Contractors will be extremely reluctant to use the latest technology in fear of losing, what they view as, proprietary rights. This affects both large and small businesses. We will experience an increased contract administrative effort particularly at the subcontractor level. In addition, there may be a new one time requirement for additional funding to buy data rights. We believe the most effective time to minimize proprietary rights at the beginning of weapon systems acquisition cycle. Next, contractors must be given an incentive regarding these rights. Finally, industry support must be solicited and obtained in order to effectively implement any of the new data rights requirements being considered in pending bills.

Conclusion on Legislative Changes. As I mentioned earlier, the DOD/IG concluded a comprehensive follow-on audit

of the defense procurement system as it related to replenishment spare parts and in its published report dated 25 May 1984 Mr. Joseph H. Sherick said:

> "I believe the actions you have already taken will, when implemented, properly correct the causes of unreasonable prices noted during the audit....The Services have sufficiently addressed the small quantity purchase problem and remedial actions are in-process. ....In response to your initiatives (Secretary Weinberger's 10 and 25 point programs), the buying activities have instituted more than 430 corrective actions..."

At the direction of Congress, OMB's Office of Federal Procurement Policy conducted a similar follow-up review of the Defense Procurement System. This report, issued simultaneously with the above DOD/IG report, concluded that the actions taken to curb spare parts overpricing are "warranted and appropriate." It further advised Congress to "hold off on legislative action until these reforms have had a chance to produce results. The reform programs will take several years and any additional legislation at this time could be counterproductive."

The initiatives we in the Air Force Logistics Command and the Air Force have undertaken are extensive and will take some time to become fully institutionalized down to the lowest working levels. Each time a new legislative initiative is taken, it requires further change and delays the ultimate

reaching of our mutual goal--the most defense of our nation for the dollars available and the regaining of credibility in the eyes of the average taxpayer. Let us not continue to correct a defense procurement system when the actions already taken have already been found to be adequate to fix all the problems known to exist.

Closing Summary.

Finally, in summarizing my remarks I want to emphasize that the Air Force Logistics Command is fully committed to resolving the pricing concerns that have been raised by Congress, the Administration, and the American taxpayers. This commitment is evidenced by increasing manpower resources as required to accomplish increased breakout and competition and to enhance pricing of spare parts, by spending increased dollars up front to achieve greater savings in the long term, by implementing extensive changes wherever needed throughout our acquisition procedures, and by acquiring new and up to date automatic data processing equipment.

All these positive steps have been undertaken, within existing legislative guidelines, to assure that the items we buy are reasonably priced while at the same time being careful that the necessary changes are made without disrupting the Air Force's primary mission.

Working synergistically with an equally determined commitment of the defense contracting community, our combined efforts to date are achieving very significant benefits. The steps we have taken and continue to take are directed toward

providing needed logistics support at the lowest cost.

We are firmly committed to continue our efforts to develop more and better ways to efficient and economical ways to acquire the Air Force's requirements; but, we must not lose sight of the ultimate purpose of our efforts--that of supporting the Air Force's readiness and sustainability initiatives. We will most certainly continue our search for new and better ways of getting our job done; but, we must always be careful to suboptimize in acquisition efficiencies to the detriment of the very purpose for which we acquire spare parts--to insure that we stand ready as a nation to effectively execute our war plans if and when vital national interests require such action.

General Walter Bedell Smith, after serving as General Eisenhower's chief of staff during the liberation of Europe, wrote: "Any amateur can shove tanks, planes, and infantry around a map; the real business of war is getting gas, ammunition, and spare parts to people when they need them, where they need them."

No words were ever more true than his words are today; for our business, the logistics business, is the business of fighting and winning wars. And today, our ability to fight and win wars is, in effect, our ability to stay alive and free.

Mr. Chairman, this concludes my prepared statement.

Senator QUAYLE. Thank you very much, General.
General Thompson?

STATEMENT OF GEN. RICHARD H. THOMPSON, COMMANDER, ARMY MATERIEL COMMAND

General THOMPSON. Thank you, Mr. Chairman.

I, too, have a prepared statement which I will ask be inserted in the record.

I am Gen. Richard H. Thompson, commander of the Army Material Command. We exist to support our soldiers and for support of the total Army including our Active Forces, the Army National Guard, and our Army Reserves. We also support sister services and through the Security Assistance Program, the allies of the United States.

I will limit my remarks today to our acquisition responsibility. We, in your Army, are undergoing the most ambitious and comprehensive modernization program in our history. This requires an Army Materiel Command fiscal year 1984 budget of approximately $35 billion and over 126,000 people.

We, in AMC, are working hard to spend our funds wisely and take over obligation to the American taxpayer very seriously, that is, to gain the best procurement possible for every tax dollar spent.

As in any system with this many people and dollars, there are some areas where we know improvement is required and is in fact overdue. I appreciate the opportunity to tell you about some of the programs and management actions we have underway to improve that acquisition process.

Our management challenges center around three key elements:

Providing the materiel when needed.

Procuring it at a reasonable cost.

And ensuring that our Army receives a quality product.

It should be noted that these three elements have been directly or indirectly affected by ongoing DOD programs such as former Deputy Secretary of Defense Carlucci's 32 initiatives to improve the acquisition process.

These have now been combined in six thrusts under the defense acquisition improvement program and the spare parts initiatives which in the Army we are calling Sprint or the spare parts review initiatives and where we have identified almost 200 separate needs to improve the process.

To buy materiel when needed, we are taking initiatives to reduce development times by compressing our acquisition process. We will use mature technologies and take an evolutionary approach to development with preplanned product improvements.

We are also making progress toward quicker acquisition through the nondevelopment item program. We are now emphasizing nondevelopment item solutions not only for end items, but also subcomponents.

Last, but not least, we are working to reduce the time required to award contracts through the application of automation, to reduce procurement leadtimes.

To acquire materiel at a reasonable cost we are increasing our competitive procurement wherever it is most possible and intelligent to do so.

We have also taken some innovative steps to strengthen our negotiating position when we must use sole source procurements such as "should cost" analysis and business clearances reviews.

We have also realized greater cost savings by combining acquisition initiatives in some procurements.

To categorize the Army's efforts in the spare parts battle, I use four words: "Discipline, people, training, and common sense."

We feel we are making great strides in all of them. Especially we are concentrating on five areas: Refunds, breakout, digital storage and retrieval data system, data rights, and minimum dollar value procurement work directives.

To pull our efforts together in the elements of when needed and reasonable cost, we are attempting to stabilize programs by actively pushing multiyear procurement in our program management control system which provides us with a mechanism to enforce discipline in the acquisition process and tighter management control.

In the third element, quality product, our goal is to ensure that quality is raised to the same level of importance as cost, schedule and performance.

One key to product quality is the use of product warranties. The Army has voluntarily used various forms of warranties for years. The new warranty provision in the 1984 DOD Appropriations Act now requires guarantees in all production contracts for weapon systems. The Army has fully complied with the act.

To date we have 479 contracts with warranty provisions which fully comply with that requirement. Such a broad application of guarantees implies an up-front increase in acquisition and support costs as well as increased lease times.

We are not in a position yet to quantify these, but we are working on the problem and there are some problems that we are concerned about.

In closing, let me commend your efforts in placing competitive negotiated procurements on a par with sealed bid and permitting us to exclude incumbent contractors from procurements in order to develop second sources.

I have submitted to you some concerns we have with both enacted legislation and that under consideration to include proposals for the future. We would sincerely appreciate your giving them a very serious look.

Thank you, sir.

[The prepared statement of General Thompson follows:]

PREPARED STATEMENT OF GEN. RICHARD H. THOMPSON, U.S. ARMY

Mr. Chairman, members of the Senate Armed Services Committee Task Force on Selected Defense Procurement Matters. I am Gen. Richard H. Thompson, Commander of the Army Materiel Command. To set the stage, I feel it appropriate to give you a brief overview of the command's responsibilities. AMC has a significantly different mission than the other Army commands. We exist to support the soldier and the total Army including our Active Forces, the Army National Guard and Army Reserve. We also support sister services and through the Security Assistance Program, the allies of the United States. This support is provided through the execution of seven different, but closely related, responsibilities. We do the research, develop-

ment and acquisition of the Army's materiel; we must maintain the continuous readiness of that materiel once it is in the hands of our soldiers, plus that in our war reserve stocks and operational project stocks. AMC also serves as the Army executive agent for security assistance or foreign military sales; the DOD single manager for conventional ammunition, and as the Army executive director for test measurement and diagnostic equipment. Lastly, we serve as the Army executive director for nuclear and chemical matters and as lead service for chemical and biological defense programs.

I will limit my remarks today, to our acquisition responsibilities. We are undergoing the most ambitious and comprehensive modernization program in our Army's history. This requires a fiscal year 1984 budget of approximately $35 billion and over 126,000 people (10,740 military).

To put our Army procurement practices in the proper perspective, I would first like to point out that in 1983 we had a work load of over 230 thousand procurement actions for materiel and supporting services, a 41 percent increase over fiscal year 1980. This represents a procurement program of approximately $20 billion. These contracts range from small one time purchases in the hundreds of dollars to multiyear weapons systems contracts well over $1 billion. These procurement actions require some 7,968 people located in seven major buying commands.

We in AMC are working hard to spend our scarce funds wisely and take our obligation to the American taxpayer very seriously, to get the best deal possible for every tax dollar spent. As in any system with this many people and dollars there are some areas where we know improvement is long overdue. I appreciate this opportunity to tell you about some of the innovative programs and management actions we have underway to improve our acquisition process. I would then like to share with you some of the concerns we have with specific legislation, both enacted and proposed, and suggest some legislative remedies for your consideration.

Our management challenges are staggering and center around three key elements. Providing the materiel when needed. Procuring it at a reasonable cost and insuring that our Army receives a quality product. It would be noted that these three elements have been directly or indirectly affected by ongoing DOD programs, such as the former Deputy Secretary of Defense Carlucci's thirty-two initiatives to improve the acquisition process. These have now been combined into six thrusts under the Defense Acquisition Improvement Program, and the DOD spare parts initiatives, known in the Army as "Sprint". I will address each of the key elements separately and discuss what we are doing to refine our process.

To provide material when needed, we are taking initiatives to reduce the amount of time our programs spend in development. This stems from my concern that long programs are too expensive and deny troops the new capabilities they need. Further, technologies are advancing so rapidly that obsolescence may creep into our developmental programs. Thus, we're looking at new ways to compress the acquisition process such as developing requirements that use mature technologies and only specify that which is absolutely needed. Then, we take an evolutionary approach to development with prepared product improvements which stresses planning for appropriate technology insertion downstream. In the area of testing, my concern is that we do not test for test sake, but do only that which is necessary to support quality equipment for the soldier. We'll use manufacturers test data and marketplace consumer history whenever possible. Also we want to perform certain phases of the development cycle concurrently so long as our decisions are prudent. The last area where we can make significant progress towards quicker acquisitions is nondevelopment items (NDI). Our great Nation has the world's most diverse marketplace which we need to exploit to its fullest. We are now emphasizing NDI solutions, for not only end items, but also subcomponents. That's an important variation of NDI which has the potential to use what is commonly referred to as "off the shelf" equipment on a grand scale. I believe our current effort to acquire multiple subscriber equipment (MSE) best reflects that strategy.

Last, but not least, we are working to reduce the time required to award contracts through the application of automation to reduce procurement lead time.

To acquire materiel at a reasonable cost we are increasing competition where it makes good business sense, and we are using should cost analysis procedures. Increasing competition has paid dividends. The percentage of competitive dollars awarded for all types of hardware has increased steadily, from 28 percent in 1981 to 32 percent in 1983. Through June 1984, the AMC percentage was 42 percent versus a goal of 33 percent.

In spare parts purchasing, there is an even greater percentage of items bought competitively. We increased from 45 percent in 1981 to 48 percent in 1983, and through June 1984 our percentage was 54 percent.

In addition to increasing competition, we have taken some innovative steps to strengthen our negotiating position when we must use sole source procurements. This involves the use of an expanded cost estimating technique that starts with design to unit production cost goals established during research and development. Cost goals are tracked through the entire research, development process and are used in developing budget requests. It is also used during production as part of the "should cost" analysis. "Should cost" is an in-depth analysis of all phases of a contractor's operation, performed by select teams of our most highly qualified people, with an objective of identifying uneconomical practices in both management and operations. Any findings resulting from the analysis are then combined with a headquarters business clearance review to establish the Army's negotiating position.

We have also realized cost savings by combining acquisition initiatives in some procurements. For example, in the procurement of construction equipment, we bought five nondevelopmental items of commerical construction equipment competitively using multiyear contracts. Our estimated savings are $402 million.

Reasonable cost in the acquisition of spare parts has received a lot of attention lately. I would like to cover several points concerning the management of the Army's $6.2 billion spare parts budget. With over 191,000 active items in the inventory the job of insuring that each item is fair and reasonably priced is indeed challenging. The foundation of the Army's defense against overpricing is competition. With over 45 percent of the spare parts the Army buys purchased competitively in 1983 we feel that, while there is room for improvement, we are proud of our record.

To categorize the Army's efforts in the spare parts battle, I use four words—discipline, people, training, and common sense. We feel we are making great strides in all of them. Specifically, we are concentrating on five areas. We are aggressively pursuing refunds from all contractors supplying spares to the Army, that we feel are overpriced. It has proven to be a real challenge that we intend to continue to meet head-on. The second area is the breakout program which centers on procurement of spares preferably by competition. If we cannot buy the item competitively, then we try to buy from the actual manufacturer rather than the prime contractor. By the selective breakout of design stable replenishment spares, we can realize as much as a 15–25 percent cost savings. We have also developed a digital storage and retrieval engineering data system (DSREDS) which is a modern technological tool that we intend to use to improve the transmission of technical data, reduce administrative leadtime, decrease drawing revision costs and enhance continuity of operations capability in the entire acquisition process. Our fourth area of effort concerns data rights.

I have recently directed that a warranty of data clause will be mandatory for use in all contracts where procurement of technical data is involved. We have also initiated steps to review, on a sampling basis, the quality of data received and we are instituting procedures to challenge claims of proprietary rights in data. Lastly, we have initiated a minimum dollar value for procurement work directives for both stocked and nonstocked secondary items. This policy precludes procurement actions for less than the cost it takes to process those actions. We have also instituted annual buys of items rather than buying the same item several times a year. This had several positive results such as reduction in frequency and volume of procurement work directives, shorten administrative leadtimes, results in better unit prices because of economics of scale.

To pull our efforts together in the elements of when needed and reasonable cost we are attempting to stabilize programs by actively pushing multiyear procurement. It is estimated that this could result in a savings of 5 to 12 percent in unit procurement cost through economies and efficiencies in the production process. Another stabilizing effort is our program management control system which provides us a mechanism to enforce discipline in the acquisition process through tight management controls. Program stability is improved because baseline requirements cannot be changed without formal approval by Department of the Army. The systems under development are tracked monthly to detect deviations from their baselines.

In the third element, quality product, our goal is to insure that quality is raised to the same level of importance as cost, schedule and performance.

One key to product quality is the use of product warranties. The Army has voluntarily used a form of warranty for years. We do not accept a product from a new contractor or one who has not produced that product for an extended period, unless it passes a first article test. This requires that the item meet operating or functional checks which are specified in the contract. Similarly, contractors subsequent deliveries must pass production acceptance tests.

Prior to the fiscal year 1984 DOD Appropriations Act the Army had over 500 contracts with warranties of one type or another. Over 200 of these in the automotive

area. We were aggressively expanding the use of warranties to uniquely military items, with over 100 contracts with warranties for ammunition metal parts. We had also initiated reliability improvement warranties to enhance the performance and reliability characteristics of selected military items. The new warranty provision in the 1984 DOD Appropriation Act now requires guarantees in all production contracts for weapons systems. To date, we have 479 contracts with warranty provisions which fully comply with the act. However, such a broad application of guarantees implies an upfront increase in acquisition and support costs as well as increased leadtimes. We are not in a position to quantify these at present, but we are working the problem—and there are some problems we are very concerned about.

I know you did not expect me to come here today and tell you what we, in the Army are doing to improve the acquisition process without telling you what you can do for us.

First, let me commend your efforts in placing competitive negotiated procurements on a par with sealed bids, and for permitting us to exclude incumbent contractors from procurements in order to develop second sources. DOD has sought these changes for some time. However, there are a couple of aspects of the competition in contracting act which you may wish to reconsider at some future date. First, the lowering of the threshold for certified cost and pricing data from $500,000 to $100,000. We are not convinced that the additional administrative burden for contractors, auditors and our pricing personnel will be off-set by lower prices. The other aspect is the requirement that the service's senior procurement executive approve sole source procurements over $10 million. We believe that this approval should be made by the head of the contracting activity, who in AMC, are the commanders of our major subordinate commands, and are major generals.

In looking at legislation under consideration, we view many of the provisions of the Small Business and Federal Procurement Competition Enhancement Act as premature. In some cases they duplicate management improvements already initiated by Secretary Weinberger. For example, the legislation calls for competition advocates and breakout procurement center representatives. Advocates for competition are already in place throughout AMC, and we also have a very comprehensive breakout program in place with managers for that program.

We also feel that key provisions of the proposed defense authorization bill are duplicative of ongoing initiatives in the Department of Defense. Again, this bill calls for a competition advocate; a major general who must approve all proposed sole source procurements over $100,000. In the case of AMC, that would mean 5,100 procurements a year would have to be reviewed by this advocate. That would be an enormous administrative burden, and without question would lengthen the time needed to award contracts.

In general, we believe that the management initiative of the Secretary of Defense should be given a chance before duplicative provisions are made part of public law. I believe the Secretary is headed in the right direction, but if he is not, management initiatives are easier to modify than are laws.

Regarding the non-developmental items program I mentioned earlier, prior to last years Appropriation Act, we required that items sold to us have an established commercial market acceptability. This provided some assurance that the item would meet its intended use and eliminated the need for extensive testing to evaluate required performance. The fiscal year 1984 DOD Appropriations Act exempted small business from the demonstrated commercial acceptability requirement. This forces us to either risk buying an untried and unproven item, to write detailed specifications instead of using performance specifications, or to use extensive testing. We ask that you consider repealing this legislation.

In addition to what is currently undergoing legislative consideration, there are a few other areas we believe you should consider.

We are experiencing delays in the first year of program execution. The lack of appropriation at the beginning of the fiscal year hinder "new starts" programs and executions of the budget submitted. There is insufficient flexibility to solve some of our own problems. We need your assistance in resolving delays we have experienced in obtaining congressional approval of over threshold programming actions. A biennial budget would give Congress more time to review and analyze budget submissions, pass the authorization bill one year, and the appropriation by the following first of October. An appropriation by 1 October would be extremely helpful even if the biennial budget is not approved. If we cannot obtain appropriation by 1 October, the continuing resolution authority language should remove the new start restrictions for items in the authorization bill. If we were allowed to merge appropriations at the end of the third year into the M account, it would preclude the use of third year funds used to cover contingencies. An increase in below threshold reprogram-

ming authority would also allow for improved execution of our programs. We would like these thresholds set at $10 million for research, development, test and evaluation and $25 million for procurement appropriations.

In summary, we have a formidable task ahead of us. Our adversaries outnumber us and spend far more than we do each year on weapons development and procurement. We all must work together, meet the challenges head-on together and excel together if we are to provide this Nation the service it needs and deserves.

Senator QUAYLE. Thank you very much, General Thompson.

Let me compliment all of you for your testimony and say I get the feeling that perhaps you have done quite a bit. There has always been a very keen interest in competition and in how we can get more people involved in the system.

In my home State I try to get more small businesses involved. With the high priority that the country has placed on defense, with the additional expenditures and for the lack of resources, there will be a continued intense scrutiny to do something to try to make the system more efficient.

That is the essence of these hearings. How can we make our defense procurement system more efficient, more workable, and make sure that we have the best system to get the most back for the buck.

In the last few weeks there has been a great deal of publicity on the spare parts and quality assurance issues. We read about missiles that don't work, about microchips that may be faulty, and about cracks in tails of F-18's.

No service seems immune. What I would hope we can do is to filter through the media hype and identify on real problems. In the next 2 days of hearings we will have former DOD officials and a panel from industry to try to get our hands on the problem from an institutional and broad ranging point of view.

Maybe I can begin with you, General Skantze. Could you give me your assessment of our current quality assurance programs? I would like you to address particularly the missile programs which have been identified, and whether or not they will work.

If we are going to spend large sums of money on systems, then, by golly, we need to have quality.

Could you give us your general assessment of how things are working?

General SKANTZE. Let me talk to the one problem I am more recently familiar with and that is with the Hughes' quality problem.

You may recall back in July the Navy decided that the quality they were receiving was not acceptable and they stopped receiving those. The plant responsibility is an Air Force responsibility and we put a team in there to look in depth at the problem.

The answer came out that there were workmanship problems in the sense that you had poor soldering. You had soldering but to the visual inspection when you looked at it, it was poor soldering and you had a situation where printed circuit board had jumper wires on them, some of which were approved, some of which were not approved in terms of the specification, and some general poor workmanship in looking at how the piece parts were put together.

As it turned out, the end item may have passed the final inspection in the plant, when you put it through a rigorous inspection, like we did with our infrared imaging missile. But when we tore

them down, the workmanship wasn't the quality that it should have been.

We found out in that process we had some problems with not having enough mandatory points to inspect those. The next result was when I heard the report was coming out, then I ceased accepting any Maverick missiles even though the ones we delivered had passed inspection check and are being used in the test program right now.

Senator QUAYLE. The ones we received are going to be used for test purposes?

General SKANTZE. Yes. It was a low rate production and they were going into a follow-on test program before we would consider going to higher rate production.

As a consequence of that and in conference with my Army and Navy counterparts, we determined that we would shut off progress payments to Hughes until they submitted a detailed corrective action plan to improve the workmanship.

I did that in late August. As a matter of fact, that detailed plan is going to be reviewed tomorrow by all three of us.

This is clearly a case where we let the quality of workmanship deteriorate and escape our oversight.

You ask why did this happen. There are instances throughout the whole process where you are going to have situations like at Hughes wherein the Tucson plant, which is rapidly building up—a couple years ago it just did the TOW missile, now it does the TOW missile in full production, IIR Maverick, Phoenix, bombing system for the Navy, it is going to do the AMRAAM missile for us—so, the buildup of that activity in the process of expanding produced a situation where from a continuous discipline quality check, we didn't stay quite as much on top of that as we should have.

Now, I think one should, and that is my opinion, one should divorce that problem from how good is the design and the performance of those missiles that we are all buying. I think we will all agree that they are good missiles and we are going to get the performance we want out of them.

But we can't afford to have latent defects in terms of poor workmanship which will show up sometime later when you want to use the missile and it won't work. It is not a function of saying it is a poorly designed, poor performing missile.

It is a function of saying that in the buildup of that production plant we didn't stay quite on top of the quality discipline and we are now taking corrective action to do that.

Senator QUAYLE. Do you think there seems to be no problem in taking corrective action and getting the cooperation of Hughes to make the workmanship corrections on these missiles? Is that what you are saying?

General SKANTZE. If I could use football vernacular, I think we have 150 percent of their attention.

Senator QUAYLE. General Thompson, do you have any observations on this?

General THOMPSON. We had a somewhat different kind of condition. You know, TOW-II has performed very successfully for the Army. We have had almost a 94-percent acceptance rate.

We do what we call a lot reliability analysis where we look at the stockpile after it has been fielded.

We also do a lot of testing after it goes through the individual process. We had discovered that we did have workmanship problems at Hughes. We brought that to their attention and they moved very, very quickly to correct the kind of problems we told them about.

Concurrently, the determination was made by Hughes to stop production and, of course, we cut off payment because we weren't getting anything for our dollars.

They have done very, very well, sir, to make the corrections that we have asked them to make. We have identified 71 mandatory inspections we wanted enhanced and they have adopted all of them.

Senator QUAYLE. Is this an isolated problem in this program, or is this a problem we have across the board on quality of workmanship?

General THOMPSON. I can't speak for my colleagues. In my view, this is a problem that we have with hardware. We have to do more than we have been doing, at least in the Army, to improve the workmanship and quality of what we are getting.

Senator QUAYLE. You think it is an across-the-board problem and that we have not had careful oversight?

General THOMPSON. I don't know that I would describe it across the board, but it is a problem. I think I would describe it as a problem that we have to pay more attention to.

That is why I commented on it in my remarks. If we are going to get a quality product, we are going to have to spend more time looking at quality.

Senator QUAYLE. What do you have to do? Do you have to have people out there working with the contractors more closely than in the past?

It seems that in the past we have said, "You are a reputable company," and now we find out that is not the case.

General THOMPSON. At Hughes I had zero Army personnel looking after my interests. Now the AFPO takes care of that for us, but, of course, we would like to have someone who is looking at it from an Army standpoint.

Senator QUAYLE. General Skantze?

General SKANTZE. I would not take the situation described at Hughes and characterize that as an across-the-board problem in the industry. It is not. We are receiving good quality product.

Like in any function, you have to maintain the surveillance and discipline to make sure it is constantly being implemented and the inspections are being done because as an item is assembled, there are mandatory checkpoints for the quality inspector of the contractor to look at that and say, "Yes, that is assembled correctly," and he puts a stamp on it.

There are also mandatory checkpoints for the Government to review either at that one or another point and say, yes, it has been done up to that point. That is all laid out in the quality assurance plan.

It is part of the contractual requirement to do that to meet the specification. But I think any human endeavor you have to constantly monitor, measure, keep the focus on it.

It is that kind of commonsense management oversight and monitoring that has to continually go on.

Senator QUAYLE. I have one more question and then I will yield.

Who is going to pay for the corrections that are going to take place?

Is Hughes going to pay for that, or the taxpayers?

General SKANTZE. Hughes will present us a plan tomorrow as to how they intend to institutionalize high quality inspection in their process and in their plant.

We are not going to give them any money to do that. That is their responsibility.

Senator QUAYLE. The cost of the weapon is not going to go up because of that?

General SKANTZE. We have firm contracts with them.

Senator QUAYLE. Firm fixed price?

General SKANTZE. They are fixed-price incentive, but I don't anticipate any additional cost coming from that.

Senator QUAYLE. Admiral, do you want to comment on Phoenix?

Admiral WHITE. It is the Navy's position we are not going to pay a single penny for this. We paid good money for those missiles and we expect good missiles to be delivered by the contractor.

Senator QUAYLE. Is this a broader problem, beyond this case?

Admiral WHITE. Broader than Hughes?

Senator QUAYLE. Yes, broader than Hughes from your point of view?

Admiral WHITE. Yes.

Senator QUAYLE. Your response is the same as General Skantze's. You have not conducted adequate oversight? That is the reason we are having problems with quality?

Admiral WHITE. I perhaps would state it a little differently.

First of all, don't assume I condemn all things being delivered. That is not true.

The nuclear submarines and Aegis cruisers we are getting are in good quality condition. I am sure you are familiar with the press reports.

I have stopped the Phoenix deliveries, and regarding the F-18 cracked tail, we refused delivery of those aircraft, demanded the contractor pay for the fix.

We have stopped accepting the F-404 engine until that problem is fixed and the contractor will pay for that fix.

The problem is more than Hughes. I would say very frankly, in my opinion, it is inadequate management attention on the part of industry.

I also would say that we have not been tough enough. I think that is changing. I can give you many examples of that message getting out in industry.

Senator QUAYLE. Senator Levin?

Senator LEVIN. Thank you, Mr. Chairman.

It is nice to have you here. We have had problems with all three of the Hughes missiles, I understand, with the workmanship in those missiles. We have torn down those missiles. We have problems.

Tomorrow you are going to work out some future process so that we have fewer problems in the future. We will look forward to

judging that after you arrive at some kind of new approach to quality assurance at Hughes.

I am very much interested in the quality assurance aspect, too, and that is what I want to focus on this morning as well. I want to talk about the relationship between workmanship and performance.

General, you indicated you wanted to divorce the issue, workmanship from performance. You say that the missiles we have are performing adequately, even though we see problems with the workmanship on the missiles that we have torn down, we should separate that issue from whether or not those missiles are performing adequately.

Does the workmanship problem that you have discovered create fears that the performance may not be adequate?

General SKANTZE. I would like to restate what I said, Senator.

The basic design and the performance of the IIR Maverick missile is, in our judgment, good. What compromises any piece of hardware is poor workmanship. So, from the standpoint of saying if an IIR Maverick missile has poor workmanship and it is not going to be a good article to put out in the field, this does not say that you ought to go back and scrap the whole design of the missile and redesign it to some other level of performance.

Senator LEVIN. If the workmanship of the missiles in the field is the same as the workmanship of the ones you have torn down, do you have concern about future performance?

General SKANTZE. You bet and we have sent them all back.

Senator LEVIN. All the missiles in the field have been sent back to Hughes?

General SKANTZE. We have a low rate production number of 40 missiles and we cycled them all back to check the workmanship.

Senator LEVIN. All those repairs on the missiles in the field are going to be made at Hughes' cost?

General SKANTZE. Absolutely.

Senator LEVIN. The Army has how many TOW missiles in the field?

General THOMPSON. I don't have that number.

Senator LEVIN. It is thousands?

General THOMPSON. Thousands. We have had 12,000 TOW firings.

Senator LEVIN. That will make my point.

What are you going to do with the missiles in the field? Do you have concern based on workmanship, based on torn-down missiles?

General THOMPSON. No; because we have had a stockpile reliability program. We have been testing the missiles all the time. They have been 94 percent acceptable. We have torn down some missiles.

There were workmanship problems that were not critical to performance of the missile, but should be corrected because they are not acceptable.

Senator LEVIN. Why do you want them corrected?

General THOMPSON. Because we don't know what it does after the missile has been in the field for some time.

Senator LEVIN. So, you are concerned about the performance?

General THOMPSON. Yes.

Senator LEVIN. Based on the workmanship you have seen?

General THOMPSON. Yes, sir.

Senator LEVIN. Are you concerned about the performance of the missiles that have gotten through between the last time you tore them down and this time?

General THOMPSON. No, sir; because that stockpile reliability program has demonstrated we don't have problems.

Senator LEVIN. You have torn down a missile at Hughes?

General THOMPSON. Right.

Senator LEVIN. You don't like the workmanship. You are concerned about the performance of those missiles if you allow it to continue.

When was the last time you tore down those missiles?

General THOMPSON. September of this year. We tore one down this month.

Senator LEVIN. When was the last time before?

General THOMPSON. In August.

Senator LEVIN. I mean the last time the TOW missile was torn down?

General THOMPSON. August.

Senator LEVIN. When was the last time before that?

General THOMPSON. I don't have that.

Senator LEVIN. How long before that? Do we know?

General THOMPSON. We can furnish that for the record.

[The information follows:]

While there were no missiles torn down prior to August 1984, product oriented surveys are conducted to review product quality and workmanship on an annual schedule. A survey was conducted during 11-21 October 1983 with 36 discrepancies being discovered; 15 were nonconformances to procedure, 15 were inadequate documentation, and 6 were hardware related deficiencies.

Senator LEVIN. Assume it is October 1983, because we think that is when it was.

For the moment, assume it was October 1983. Under the assumption the last time you tore down the TOW missile was in October 1983, you found problems then, as a matter of fact, some 36 flaws in it?

General THOMPSON. Yes, sir.

Senator LEVIN. Now you come to August 1984, you find flaws which concern you enough to repair.

What about the missiles from August 1983 to October 1984? Aren't you concerned?

General THOMPSON. Yes, sir. But we have a stockpile reliability system where we are testing those all the time.

Senator LEVIN. If you tore down the ones in the field, do you think you would find the same problem as in the ones you tore down here?

General THOMPSON. One of the things I have asked them to do is exactly that, to do the same kind of tear-down analysis.

Senator LEVIN. Are you doing that right now?

General THOMPSON. Yes; we don't have the results of that.

Senator LEVIN. You are going to tear down a number of TOW's in the field?

General THOMPSON. Yes, sir.

Senator LEVIN. If you find the same kind of flaws?

General THOMPSON. We will get back to Hughes and we will make them take care of that.

Senator LEVIN. If you find the same kind of flaws in the field as the ones you tore down, you will bring them back to Hughes?

General THOMPSON. Yes, sir.

Senator LEVIN. He will repair them at his own cost?

General THOMPSON. Yes, sir.

Senator LEVIN. Now to the Navy. Do we have any missile in the field that we are going to ship back to Hughes?

Admiral WHITE. There are 100 AIM-540 missiles involved. We have not delivered any of those. Our first demand is to get them fixed.

Senator LEVIN. So, those are going to be looked at, is that correct?

Admiral WHITE. Actually we have torn down some of those. We have torn down three or four. Based on that, we have said, go fix them all. We are not going to tear down the other 97. The assumption is they are all bad, fix them.

Senator LEVIN. What it amounts to is that we are going to return all of our Navy and Air Force missiles. On Army missiles in the field, there will be samples taken, missiles torn down, and if they have workmanship defects, we will return them to Hughes, all of them, and Hughes will pay the cost of repairs of the workmanship defects on all three services' missiles from what I have heard from you this morning and that is good news.

The next question. The stoppage of the payment to Hughes on these missiles, that decision to stop payment, I take it, caught somebody by surprise at DOD.

Is that what you found out, too?

Admiral WHITE. Actually the stopping of payment was an Air Force issue because it is an Air Force responsibility. My action was to stop accepting missiles.

When I made that decision, I then informed my superiors and I think OSD was not caught by surprise.

Senator LEVIN. Did the Secretary of the Navy support you on that decision?

Admiral WHITE. Yes, sir. He and the CNO were the first persons I called after I called the president of Hughes. Secretary Lehman and the CNO both very strongly supported it.

Senator LEVIN. How about the Secretary of Defense, did he support you on it?

Admiral WHITE. I didn't speak to the Secretary of Defense. I suspect so or I would have been overruled.

Senator LEVIN. You don't have any evidence that there was any disagreement in that decision in the Office of the Secretary of Defense?

Admiral WHITE. No, I have no evidence one way or the other.

General SKANTZE. On the contrary, he was very supportive. The Secretary of the Air Force was supportive. He talked to his counterparts in the Army and Navy. They agreed with the decisions. We went ahead.

I think somewhere in the process the Secretary of Defense was out of town. It was a question of the information chain.

Senator LEVIN. Was the Secretary of Defense or Deputy Secretary of Defense notified about this decision to stop payment?

General SKANTZE. I can't answer that. My understanding was that their staff people were notified. Specifically whether he knew about it or not at this point in time, there is no question about both of them being supportive of the action.

Senator LEVIN. In terms of the notice, there is a big article in the paper saying they were caught by surprise by this decision.

So far as you are concerned, the Secretary's office was notified in advance?

General SKANTZE. Our three service secretaries were aware. My understanding was the information was passed on to the OSD staff and beyond that I can't tell you what happened.

Senator LEVIN. Should we make some changes in our quality assurance process to make sure that this kind of workmanship is caught before we have to tear down the missiles?

Isn't there a fundamental defect somewhere in those thousand pages of the manual, whatever the number of pages, on quality assurance where we have full-scale production, as I understand it now, of at least two or three of these missles?

We have thousands of them in the field. Every time we tear down the TOW's we find problems.

Doesn't that indicate we have some structural problems with our quality assurance program that should be corrected?

Let me start with General Thompson.

General THOMPSON. Sir; I think we have to do a better job of educating the contractors and our Government people to train in an atmosphere of quality awareness. We should not just pay lipservice to that.

Senator LEVIN. I am not talking about educating and training and atmosphere.

Didn't something go wrong in our quality assurance process that somebody didn't catch the workmanship problems?

General THOMPSON. I don't think anything went wrong in the Hughes instance with our procedures and our process from our standpoint.

Senator LEVIN. Even though it ends up every time you tear down a TOW missile, you find defects, 36 flaws in May 1982, 31 in October 1982, 36 in October 1983?

That doesn't indicate anything is wrong with quality assurance?

General THOMPSON. That number itself does not indicate anything wrong. We have to look at the criticality of each of those.

Senator LEVIN. If they are critical enough, they have to be corrected?

General THOMPSON. Yes.

Senator LEVIN. But not so critical they should have been caught?

General THOMPSON. We hope the revised procedures Hughes has put in will do exactly that.

Senator LEVIN. My time is up.

Thank you very much, General.

Senator QUAYLE. Senator Bingaman?

Senator BINGAMAN. Thank you, Mr. Chairman.

Let me ask questions on a different aspect of the problem at Hughes, if I could, just to get at perhaps another problem.

Do we have a major problem in the turnover of the program managers that we are assigning to oversee these various weapon systems or programs?

I have information here that the Air Force had four program managers in the last 5 years at Hughes overseeing the Maverick, that the Navy had three since 1977, which I guess is not as bad, but still an unreasonable turnover, that the Army has had three since late 1978 on TOW.

Is that kind of turnover sensible?

General SKANTZE. I was involved as commander of ASD and I removed the incumbent program manager and put another one in. I did that on the basis of my judgment that I needed an individual who I felt was better tailored to do that job and I made that judgment personally.

He went in there and I think did the job quite well, brought us over the hurdle of getting through the initial low rate production decisions and getting into low rate production. He did that quite well.

He more recently was moved to the AMRAAM program down at Eglin, which is also a Hughes program, on the basis that he was the best qualified individual to take on the program at a critical point in time. He understood the Hughes' system and had been a very effective manager with them.

The current program manager who replaced him I think is quite competent to manage that program.

The point I am trying to make is that although people believe that there ought to be absolute fixed tours for program managers, I think in reality you have to gauge that to your needs at the time and who would be the best individual to carry that program to the next phase.

Senator BINGAMAN. Do you agree with my general view on this, that having program managers with a normal tour of significantly less than 3 years is not conducive to good management?

General SKANTZE. Not necessarily. I think you have to look at it case by case. Let me take my case.

In 1971, I became the program manager for the short-range attack missile. We were having trouble getting it out of development and into production. I was given that program.

In a little over 2 years it was back on track. We had competition, we had second sourcing of the rocket motor. The cost of the missile was coming down. We successfully delivered to the first several wings and I was moved to take over the AWACS.

My point is that I spent 2 years on SRAM. I don't think that was unrealistic in terms of the circumstances. I spent 4 years on AWACS.

Senator BINGAMAN. You say that short term is in many cases appropriate?

General SKANTZE. I won't say in many cases, but I say on a case-by-case basis the short term might be appropriate, particularly if it is the judgment of the commander of either the Air Force Systems Command or product division, that we need a better man on the program.

Senator BINGAMAN. I can see the need to change people at times, but I think as a general management rule if I were to change my

administrative assistant every 18 months or 2 years, I would think I had a management problem in my office.

I assume that would apply in any organization where you are trying to manage effectively.

Admiral WHITE. Senator, you are precisely correct. The Navy policy, official Navy policy, under Secretary Lehman has been that we have instituted early this year a 4-year tour. Exceptions must be personally approved by him and they are only under very, very strict and very abnormal conditions.

We have not requested any waivers to that. It is a 4-year tour. You put your finger on one of the major problems. We have a strong program this year in upgrading the caliber we are selecting for project managers.

The formal schooling we require them to go to, the tour length, as well as attaching to their names designators that require them to come back for repetitive tours to gain experience at very junior levels.

It is very critical to weapons procurement; 4 years is our minimum tour.

General SKANTZE. Let me add one point which I think might be helpful in your view of the experience level.

I have managed two major programs. My vice commander has managed a major program. Every one of my product division commanders who are lieutenant generals have managed at least one major program and in some cases two. Most of my general officers have been major program managers.

So, we have managed in our system to keep the inherent experience and built it up and put it into the top levels of the management.

Senator BINGAMAN. Prior to becoming a program manager, what kind of training do you go through in the Air Force?

General SKANTZE. For example, if you are a nonrated officer, an engineer, and you come into the Air Force, the chances are you will most likely wind up in Air Force Systems Command.

As a lieutenant and up through captain you will be a project officer on a piece of a program perhaps. You will then go to the Defense Systems Management College at some point at Fort Belvoir. You have gone through some short training in Air Force Systems Command for a week or two on the acquisition process when you are a lieutenant.

When you go through the Defense Systems Management College—it is, I think, a 6-month course—that gives you a pretty broad grounding in all the aspects of the acquisition process plus your own experience.

Generally you may matriculate from there either back to the product division or to a staff job in acquisition, either in the air staff or Air Force Systems Command.

So, once you are in that process of acquisition and you are tagged as an acquisition officer, you tend to remain in that periphery.

Senator BINGAMAN. Let me ask on another aspect of this whole problem of oversight.

Some of the articles that I have seen recently indicated a serious problem which I am sure is longstanding perhaps, particularly at the Hughes plant, of this revolving door practice, of people who

were there to monitor what was going on showing up 1 month later or 2 months later in a position working for the company.

This article, I guess from the Post 1 month or so ago, says that Hughes hired one Under Secretary of Defense in charge of weapons development who became a company vice president, a lieutenant colonel who headed the controversial Maverick test program, three Maverick program managers, two Defense Department auditors who had been in charge of monitoring Hughes' contracts, and the day after some articles ran in an Arizona paper, another general began working for Hughes who 2 months before had been the Air Force plant representative in Tucson.

Is that an accurate portrayal and if so, isn't that a serious problem?

General SKANTZE. I can't attest to all the instances you have cited. I certainly intend to go back and take a look at that.

In all candor, you will find that there are many people who have served very well and very honorably in the Department of Defense who, upon retirement or termination, have gone out into various kinds of industry. Many of them go out into the consultant field.

Senator BINGAMAN. This, as I understand it, is a person who was there in Tucson at the plant monitoring what Hughes was doing and turns up 1 month later to be working for Hughes.

That is a different thing than just being a consultant in industry, isn't it?

General SKANTZE. As I say, I would like to check on that instance and that instance would certainly disturb me.

There have been instances in my career where someone who worked for me was going into retirement and I would just caution him to not show up in any kind of job capacity which directly interfaced with my command or wherever we were doing business.

So, I certainly am disturbed by the implication of what you have said.

The only point I wanted to make is that there are a lot of people who have retired and they are out in industry and I think all of us know some of them, but at least from my concern, I think, the idea that somehow these people influence us is totally wrong.

I get concerned that there is an implication that if any military person retires that you somehow run into them out in the industry, that somehow you are automatically compromised and you are going to give something up in terms of the Government requirements or responsibilities, I think that allegation has been terribly overstated.

Senator BINGAMAN. My time is up.

I do have some other questions, Mr. Chairman, which I will submit for the record if we don't get another round of questions.

Senator QUAYLE. I think we will have another round.

Senator BINGAMAN. Thank you.

Senator QUAYLE. Senator Dixon?

Senator DIXON. Mr. Chairman, I ask your consent to place in the record what would have been my opening statement.

Senator QUAYLE. Without objection it will be included in the record in the very beginning as if read.

Senator DIXON. Thank you, Mr. Chairman.

General Skantze, there have been allegations in the Wall Street Journal that one of the reasons for the delay in the Shuttle launch was a faulty Texas Instruments microcircuit.

Can you comment on that allegation for me?

General SKANTZE. Someone else here might be more up to speed.

Senator DIXON. I will be delighted to hear from whoever is best qualified to answer the question.

General SKANTZE. I don't think we know enough yet. We have all put a hold on utilization of those microchips.

Senator DIXON. The Wall Street Journal said yesterday that: "U.S. officials disclosed that a faulty Texas Instrument microcircuit caused a computer failure that delayed launch of the space shuttle Discovery earlier this summer."

General SKANTZE. That is all I am aware of. I am aware of that statement, but only from the media.

Senator DIXON. I am informed that the Texas Instrument people acknowledge that they have been providing microcircuits to defense contractors that have not been subject to the full testing required by military specs.

Is that your information?

General SKANTZE. I think that is a correct statement that they have acknowledged that.

Senator DIXON. I am further advised that this is exactly the same problem that DOD encountered with National Semi-Conductor Corp. several months ago.

Would anyone here be able to enlighten me on that?

General SKANTZE. I can't comment on that.

Admiral WHITE. I think that is correct. Frankly, the problem is the agency responsible for contract administration at those particular companies, National Semi-Conductor and Texas Instruments, is not represented here today.

That is the Defense Logistics Agency. They are the ones involved with that.

Senator DIXON. I think the curiosity we all find as members of the committee, which is not intended to be in any way an implication that there is anything going on that is irregular in the services, but I think the problem we find is that, for instance, we are talking about Hughes here and the problems right now, but Hughes had major problems at this same plant over 1 year ago that received national media exposure.

I am told that employees were using materials paid for by the Government to make cable television reserves and that they shut down the production line to watch movies and things of that character.

I just wonder why the same conditions continue to repeat themselves so frequently in the kind of hearings that we have here. It would seem to indicate to me that there is some lack of intense scrutiny of these conditions or the rather obvious ones.

To give you a personal example, we have a problem at Scott Air Force Base near my hometown of Belleville involving a contractor that received substantial publicity in my area of the State in the newspapers and the same contractor had similar problems almost parallel to these circumstances, I think in Idaho, 1 year or so ago.

I just wonder why we keep hearing the same record over and over again?

Admiral WHITE. Let me take a stab at that, Senator.

I can't speak historically. I can only speak of my exposure to these things.

The Hughes issue came to my attention last fall about 3 months after I took the job. The situation came to my attention by some little signals that indicated we might have quality assurance problems.

I asked for complete program review, in fact, two program reviews. The answers from those reviews continued to tell me nothing was wrong. I was skeptical.

At about that time we tested a missile in the fleet as part of the test program and there were some failures reported to me as poor design. I asked to look at those failures.

They looked to me to be quality problems. That is really what started this whole thing because I sent my team to Tucson and said: "Tear down a missile. If there is anything wrong, take pictures and bring them back to me."

Now, I want to tell you that there are some good things that have happened. What do I mean?

For example, within a couple of months after we refused delivery of those weapons, we suspected problems in another Tucson plant with the radar. It turned out that the radar—this is a different plant of that corporation, different city—also had problems.

In that instance I didn't have to say to Hughes: "I refuse to accept any of those radars." Mr. Puckett came to me and said: "Look, those don't meet our standard of quality or yours. I don't want to deliver those products to you until they are right."

That is a significant breakthrough. I have seen letters as a result of this written by Mr. Purple who heads the Allied Corp. He said to his people: "Take a look at the thing. The No. 1 priority in our company will be quality."

Senator DIXON. I want to contrast that with the fact that last night on cable television I saw, I guess, the chief executive officer—I want to be clearly understood here, I didn't get his name, maybe it is not the chief executive officer, but some official of Texas Instruments, was quite offended we would suggest that anything was the matter with their microchips.

Yet the Wall Street Journal says that: "U.S. officials disclosed yesterday a faulty Texas Instruments microcircuit caused a computer failure that delayed launching of the space shuttle *Discovery*," which I guess is a terrible expense to the Government.

Let me ask you this: Wouldn't you concede that equipment failures will occur due to the use of improperly tested microcircuits?

Admiral WHITE. Yes, there might be failures and there are some Navy programs that have those microchips.

Senator DIXON. Do you have any plans to go back and submit these microchips to any special testing as a result of the recent acknowledgement of microcircuit testing irregularities by Texas Instruments?

Do the different branches of the services have plans to do that?

Admiral WHITE. With regard to the story as presented to me now, and that there are faulty microchips, the Navy policy is no

different than those for the Phoenix. We paid good dollars to have tested equipment and that is what we are going to insist on.

We are not going to pay an additional penny. We paid for the product and we want the product we paid for.

Senator DIXON. Have all your buying activities stopped from the standpoint of accepting poor quality equipment at this time?

Admiral WHITE. If you are referring to the microcircuits, that is for the Defense Logistics Agency to determine. I understand they have stopped.

General SKANTZE. We have stopped.

General THOMPSON. It is a Government-industry data exchange program. They were notified by Texas Instruments of this problem and they had stopped all shipments of 4,700 different types of chips. That has been done.

Senator DIXON. Could I ask you one more question and you can answer this as part of your response.

How have all these problems come to light, microchip and microcircuit problems? Have they come as a result of the company itself coming forward or have your quality assurance people uncovered those problems?

General THOMPSON. All of the above.

Admiral WHITE. The Texas Instruments problem was discovered in a Navy program.

Senator DIXON. Go ahead, Admiral.

Admiral WHITE. It was a Navy program. In New York the IBM Co. under contract to the Navy for one of our sonars found this problem. That is my present understanding.

It was not found by any of the inspectors, but by IBM.

General THOMPSON. Yes, that is my understanding. What happened here is that Texas Instruments advised DOD that when they were testing some of the microchips, they did not test to the full specification control drawing requirements. That had been discovered by IBM.

Now, today, at least for the Army, I have people at IBM trying to determine what were the testing procedures and what was the specificity of that problem.

Now, we have been to Texas Instruments and we have asked them to identify all of the customers, the Army customers, who use these chips. We have asked them to identify the weapon systems or the components of those weapon systems which have installed those chips.

Now, we are talking about 4,700, sir. So, we have a massive job on our hands to find out what is the problem. Once we do that, then we will do the kind of things you have described should be done.

General SKANTZE. That is correct. One of the things we need to understand is very specifically what is it that they didn't test and under what conditions so that we can then have some understanding of what kind of problem we really have.

We don't have that information yet, but we have stopped accepting any more chips.

Senator DIXON. My time is up. If I could just pursue this to the finite end question.

Do I understand that you are stopping acceptance of these microchips now and that you are looking at all the systems that have them to determine the viability of those you presently have in those systems?

That is affirmative and you are doing that down to the last system; is that right?

General SKANTZE. That is correct. When we understand what was failed to be done in the chip testing, we will then have some understanding of how critical that is to the usage in the system and then we will take appropriate action which may involve pulling those systems back or pulling the boxes or cards out.

Senator DIXON. Could I just ask one more question, Mr. Chairman? I am curious about this.

That is a lot of work, isn't it? This is a tremendous job for you folks. It costs a lot of hours of personnel to do that.

Do these people like Texas Instruments, and Hughes, and others that are responsible for us undertaking all of that tremendous work have to pay for that?

I realize they don't get paid for the things they gave us, but what about our finding all the bad things they have done? Do they pay for that?

General SKANTZE. I think you have to look at the terms and conditions of the particular contracts. If there are corrections of deficiencies and flaws to the extent they are there, we will exercise those to the maximum degree and they will have to make the fix.

Senator DIXON. Thank you, Mr. Chairman.

Senator QUAYLE. Let me cover some broader questions of procurement.

How would you suggest that we can shorten the time it takes to field weapon systems?

That is, is there a way we can actually reduce the time from conception of a new system to the start of full-scale production?

This is a concern that I have had for some time. I don't want to get so much into the political factors. We all know that is part of the problem.

What other systems steps could we take to shorter that process and make it move more smoothly?

General SKANTZE. You know, an enormous number of studies have been done on this. In my judgment, in order to get good effective development and procurement of a system, the first thing you need to go through is what I will call a good definition phase.

You really have to define the product it is that you think you need. It has to have a solid requirement. For example, a new airplane. It needs to be able to fulfill these requirements which we currently don't have and that had to be defined in an engineering sense and the configuration sense as to what that looks like, what kind of engine will it have, what kind of avionics.

That process takes, depending on the complexity, 1 year or 2 years to do. If you have done that well, then you are able to put together a pretty good cost estimate for that definition.

Then you move into full-scale development. Generally, you can get through full-scale development for that kind of definition in between 3 and 4 years.

Senator QUAYLE. Which point in the process would you say impedes going from conception to full-scale production?

What do we need to focus on the terms of management improvement?

General SKANTZE. Let me answer that, but first let me complete what I wanted to say.

Where you start production is a judgment of risk. If you want zero risk, you don't start anything in production until you have completed all the testing, you know, end to end.

Generally, we will start some long lead before we finish all the testing, but if you really want to truncate that, you can bring it forward considerably and that was done in the air-launched cruise missile program.

Generally, it is the front end process of getting an agreement that you want to build something new, that you want to start a new system and getting the DSARC–I approval, if you will.

Generally, there is a lot of time spent in trying to get that done.

Senator QUAYLE. I am not so sure you want to skimp on testing.

General SKANTZE. I didn't say skimp on testing. I said it is risk management when you move production forward, you don't skimp on your testing.

It is like on the B–1B testing. We will have the full test program. It was a risk management judgment based on what we understood from the B–1A Program and how much risk was——

Senator QUAYLE. You are basically saying that where we have some problems is the front end of the requisition cycle.

General SKANTZE. That is right.

Senator QUAYLE. Where we get into the research and development?

General SKANTZE. In the bureaucratic process of getting approval to proceed.

Senator QUAYLE. Specifically, what are we talking about? Is it a matter of budgeting? Should we be more flexible in how we authorize and appropriate?

Or, is it a matter of management? Where specifically do you think we ought to focus our efforts to improve the system?

General SKANTZE. I think it is a process of getting a crisp decision on the front end process. You are going to build a new weapon system.

An awful lot of people get involved, and I am not just talking about the Congress, but the Air Force, the Department of Defense, in looking at what the new program proposal is, how it gets started, and should you do it or should you do something else and should you have tradeoffs.

It is a process where you have to take a hard look at the requirement, pin it down and agree to proceed.

I am not sure that I know anything from a statutory point of view that you can contribute except that I would say to the extent that there is proposed legislation that says we have to have approval, more and more approval for lower and lower level procurement.

Senator QUAYLE. I am not saying that all these problems require legislation. As a matter of fact, if we spent more time on oversight and discussing these issues, we might be better off.

Let me ask General Thompson and Admiral White, do you agree that our major problems are on the front end of the cycle?

Admiral WHITE. I can be brief by saying we need better planning and budgeting. From the service point of view, we need more discipline and fewer changes, to not start developing something, than have somebody decide it has to do something that it didn't have to do yesterday to add requirements.

We have to be more self-disciplined wherever possible. We are doing that today.

From your point of view, stability in financing, if Congress wants to help, is clearly an area for improvement.

I am not talking about statutes, but program stability in the very early stages.

Senator QUAYLE. How do we get financial stability?

Admiral WHITE. I guess I would say that would be congressional discipline to not bounce up and down on a program, to delay it, stretch it out.

Senator QUAYLE. That is on the other end.

Admiral WHITE. I am talking about in the early planning research and development stages where programs are zeroed this year and next year there is some money.

I would say that requires congressional discipline the same as I say military discipline for the requirement part in the early stages.

Senator QUAYLE. You mean the fluctuation in funding?

Admiral WHITE. Yes, and what the rate of increase will be from 1 year to the next. We have to work it together because the end requirement drives the whole thing. So, we have to be self-disciplined.

Senator QUAYLE. I think it is a joint problem. Every time we get a budget, everyone knows there will be certain cuts, and everybody knows it is going to happen.

If we look at program stability, it would be better to have a meeting of the minds about what we want and know in reality what the budget is going to be. That is one of the problems we have had in the last few years.

We are going to do it again in the next couple weeks when we hopefully resolve the defense authorization bill.

Programs are often stretched out or we cut some R&D.

General Thompson?

General THOMPSON. Sir, the way to reduce the development cycle is in the requirements stage and knowing what that requirement is and having a requirement that is in fact obtainable, that considers mature technologies that are available, that looks at preplanning product improvement and preplanning where you want to go, how you evaluate, improve the system that challenges the kind of specifications we set for ourselves and also very early on at testing.

We do testing for the sake of testing and it looks at greater use of testing that evaluates and is done outside of the services. There are all kinds of things I think that we can do better in terms of reducing this process that is managerial in nature.

Senator QUAYLE. What would you say would be the major cause or causes of cost growth that we are experiencing in defense procurement?

I know you have been working on this. You have numerous initiatives that you outlined this morning. If you had to put your finger on it, what single thing is it that causes unreasonable cost growth?

General SKANTZE. There are lots of ways you can do that, changing production rates and that changes cost growth.

Finally, if you ill-define a product before you go into full-scale development, you create a disaster. If you don't want to define what it is you are going to build, you don't know, you have to invent on schedule and without defining it, you can't price it well enough.

If you don't go through a good definition phase before you go into full-scale development, you build in a problem.

The other cost growths which are due to changing production rates or inflation are things that come to pass through one process or another.

Senator QUAYLE. Again, that is the front end of the process?

General SKANTZE. That is right.

Senator QUAYLE. Is that really where we ought to have some aggressive oversight and discussion on how we can improve the system?

What I seem to be gleaning from the testimony today, is that this would certainly be a focal point for examination.

General SKANTZE. When I say that it is our job to do that, I don't think we need statutory help to go through a good definition phase. We need to do that job.

Senator QUAYLE. We need to know where it is not being done. I am not saying that everything should have a statutory response. Congress often has more solutions than there are problems.

I do believe that collectively we have to have an understanding. If there is no statutory solution, fine, but, if we can, we must look at cost growth and try to get our weapons in the field earlier.

I don't want to skimp on testing, but I think we want to make the process work more efficiently. We want to weed out inefficiency.

From what you have said, it seems to me you are saying our problems are in the front end part of the process.

Admiral WHITE. I wouldn't focus all my attention just on the front end. You asked a very good question on the cost growth issue. The type of contract has an impact, the efforts in competition, clearly the economy of the country.

You know, right now, in my opinion, the Navy's opinion, the economy is ripe for all the things that we are doing to cut cost, including competition and being better and harder negotiators.

The point I am making is that there is a lot more than just the front end.

In our shipbuilding alone the savings there clearly are dramatic. That wasn't in the front end.

Senator QUAYLE. You would add the introduction of competition?

Admiral WHITE. Yes; I would say competition. Perhaps the best example I can give of this is the dramatic reversal in shipbuilding in the last few years. A few years ago we had huge claims and almost two-thirds of our new ships were being delivered late with tremendous cost overruns.

The change today is absolutely dramatic. No major claims, very few small claims. The savings have been tremendous, hundreds of millions of dollars.

Our contracting philosophy is different. This year, all our shipbuilding contracts are fixed price. On our ships now, where 60 percent were being delivered late a couple years ago, is 23 percent. We intend to drive it to zero.

A ship delivered on time is a ship delivered on cost. A ship delivered early is a ship delivered at savings of dollars. There is much more to it than just the front end.

Senator QUAYLE. Mr. Bingaman?

Senator BINGAMAN. Let me ask one question.

General Thompson, you say in your testimony here on page 5: "We are aggressively pursuing refunds from all contractors supplying spares to the Army that we feel are overpriced."

How many instances are there that fall in that category where you feel that spares have been overpriced?

General THOMPSON. Right now we are looking at 211 items. We have subjected them to that kind of analysis.

Senator BINGAMAN. How many different contractors does that include?

General THOMPSON. I don't have that number. As an example, we have received refunds from four contractors which total almost $200,000. Three of the four were the result of our own internal review and not included in the 211.

Senator BINGAMAN. What are you doing with the other 211?

General THOMPSON. We are negotiating with them right now, every single one of them.

Senator BINGAMAN. Do you expect to file suit on some of those?

General THOMPSON. Whatever happens as a result of our discussion.

Senator BINGAMAN. When will you be able to give us a status report on how those other 211 negotiations turn out?

General THOMPSON. I can give you our current status. I will include in there the date we expect to complete the action.

Senator BINGAMAN. I would appreciate it.

Mr. Chairman, I have some other questions. I was going to ask the Admiral on this issue——

General THOMPSON. I have been told we will have 200 of those by September 30.

Senator BINGAMAN. 200 of them resolved by September 30?

General THOMPSON. Yes; we will have requested refunds on over 200 of those items by September 30, 1984.

Senator BINGAMAN. You can give us a status report at that time as to what happened?

General THOMPSON. Yes.

[The information follows:]

SPARE PART ITEMS

As requested the following is a report concerning 211 Army procured spare part items which were included in a recently completed Defense-wide audit of Procurement of Spare Parts.

The Department of Defense Inspector General alleges in his report that 211 Army procured spare parts were overpriced by a total of $3.1 million. The negotiated value of the 211 items is $6.9 million. A detailed review of the audit findings has been

conducted by the Army Materiel Command, and as of 27 September 1984, refunds have been requested on 205 of the 211 items. AMC believes four of the items are not overpriced. To date, one refund of $4,471.00 has been obtained. Internal reviews are continuing on the remaining two items for which a determination will be made either to request a refund or that the item is not overpriced.

Disposition of the vast majority of the items should be accomplished by the end of the calendar year. However, items which become involved in litigation will take substantially longer.

Senator BINGAMAN. I want to ask about this article that appeared in the paper: "Navy manuals are termed a disgrace. The Navy's inspector general charges in a document released in August that management of its multibillion dollar weapon manual program is a disgrace and a scandal."

Could you tell me what the problem is, if that is a correct characterization of the situation and if it is being solved?

Admiral WHITE. In my opinion, that is not a correct characterization. You ask, is it a technical manual problem?

In certain areas we have problems with faulty technical manuals. In other areas we have superb technical manuals, for example, strategic weapons systems, nuclear submarines, naval aircraft, and others.

The problem we feel is much overstated. For example, the statement in there that we were not competing. In fact, we are competing quite a bit. There is a difference of opinion frankly, between the inspector general and the people who are carrying out the corrective action.

Senator BINGAMAN. Could you provide to this group a written statement on that because I do think it is an interesting issue when the inspector general says it is a disgrace?

Admiral WHITE. I will be most happy to.

Senator BINGAMAN. Thank you.

[The information follows:]

TECHNICAL MANUAL PROBLEM

The Chief of Naval Material has indicated to the Chief of Naval Operations that the characterization "scandal and disgrace" is exaggerated and incorrect. While there are some technical manuals which are below required standards, there are many others that are in fine shape.

There are problems with our technical manual program but they are not as broad nor as serious as the Inspector General's assessment indicates. Most of the deficiencies identified by him were known to me and corrective actions were underway long before his inspection occurred. The corrective actions recommended by the Inspector General were in fact provided to his staff by my organization as examples of the things we were already doing.

My overall assessment is that our basic technical manual policies are sound. For example, manuals for the nuclear propulsion, submarines, strategic weapon system programs and most of our aviation programs are sound and in good shape.

In addition, for the most part, we do a good job in delivering quality technical manuals for systems that go through a long development and production phase, such as combat and aircraft systems. While we do have some problems with manuals for these systems, these problems are the result of execution rather than fundamental systemic problems. Our major systemic problems are with ship hull, mechanical and electrical publication (H, M&E) and begin with the way we buy ships. Most of the H, M&E equipments are shipbuilder furnished, often procured to performance type specificiations. Although the shipbuilder has met his contractual requirement to provide a technical manual for each equipment he furnished, inadequate government review of the manual has resulted in the introduction of some inadequate H, M&E manuals with new construction ships. We have been focusing our corrective action in this area.

To ensure that we receive quality technical manuals with our new construction ships we are:

Making sure that we invoke the latest technical manual specifications in our shipbuilding contracts.

Conducting training of contractor and government personnel involved in developing and accepting technical manuals.

Beefing up our quality assurance organization to make sure we are getting what we pay for.

The Inspector General's report raised two issues which merit comment, competition and cost.

The Navy Inspector General report asserted that the Navy procures all Technical Manuals on a sole source basis. In every procurement for new equipment and systems, the TM requirements are part of the procurement package, as are engineering drawings and other logistics information requirements. To the extent that we compete the hardware, then, we compete the technical manuals. As you know we have competed 86% of our new construction ships this year (FY-84). Frequently this competition occurs early in the development cycle of the hardware. In the case of revisions to technical manuals for equipments no longer in production all of our requirements are awarded competitively. The Inspector General report was absolutely wrong on this point.

The Inspector General highlighted TM costs in the F-14 Tomcat Program, one of our major long term procurement programs, estimating that technical manuals for the F-14 aircraft systems have cost $172.6M since program initiation in 1970. This is less than 1.6 percent of the total F-14 program procurement cost. This percentage of program costs provides necessary technical documentation to operate, maintain, repair and otherwise support a high performance weapon system. We do not feel this is an unreasonable price to pay for the technical information to support this important system.

In summary, the Inspector General's report was valuable in that it provided us with an independent assessment of a complex and important program. In an overall sense he in fact confirmed what we thought and espoused the same corrective actions we have had underway for some time. We do agree that we need to continue efforts to improve TM support, especially in the H, M&E area.

Senator QUAYLE. I have one final question and then we have to go vote.

I have had a concern for some time regarding joint service programs.

Is there any hope that we can get more cooperation and understanding? These joint programs really are not a way to put one of the services out of business.

We have this budget crunch coming, we all know it. Many of these joint programs, for some reason or another, get rejected or experience great difficulty.

Is there any hope we might be able to turn that around?

General SKANTZE. Yes; we have a good joint program with the Army which involves a complex system called JOINTSTARS.

The problem is that the two services have different requirements. You can put the pressure on the services and say you guys ought to get together and come up with a common set of requirements and we will go ahead and do that.

Sometimes the mistake is made where somebody forces a shotgun marriage before we have an opportunity to meld the requirements to see if they fit together.

That generally is the root of the problem. You hold our feet to the fire and say, what are your requirements, which we did on JOINTSTARS, we can come up with something that both of us can agree to and proceed.

Senator QUAYLE. Does that go for JTACMS?

General SKANTZE. Again, the problem was somebody tried to mandate that we would have a common missile based on either a

Pershing or a Lance. They never said, what are your requirements? They just said make a common missile, and it didn't fit.

Senator QUAYLE. Thank you.

We will hold the record open for questions. I have some others to submit for the record.

I appreciate your testimony. This won't be the last time we will visit on this issue either privately or publicly.

I appreciate your cooperation. Thank you.

[Questions submitted by members of the Task Force on Selected Defense Procurement Matters to be answered for the record follows:]

QUESTIONS SUBMITTED BY SENATOR DAN QUAYLE

A-6 AIRCRAFT PURCHASES

Senator QUAYLE. Admiral White, there has been a longstanding concern in the Navy about the number of aircraft production lines operated by the service. For example, we plan to buy only six A-6 aircraft in fiscal year 1985. Would it be a sounder acquisition strategy to buy larger quantities of particular aircraft in one year than to close the line?

Admiral WHITE. Yes, in terms of production costs and meeting naval aviation mission requirements it makes good acquisition sense to procure aircraft at the contractor's most economic rates. Our first and foremost problem in accomplishing this approach is the issue of affordability. Planned growth and modernization of forces are fiscally constrained to less than that required to meet objectives. The annual procurement requirements to support the naval aviation force structure is determined by the number of aircraft that are attrited.

Our planners do attempt to minimize the problem by rationally time-phasing the introduction of follow-on aircraft. In the case of the A-6, the small quantity being procured (an attrition buy) permits us to maintain the production line while preparing to introduce an A-6E upgrade. The substantial cost of closing down a production line only to re-open it at a later date would not be a sound way to run our business.

EMPLOYING MILITARY OFFICERS BY DEFENSE CONTRACTORS

Senator QUAYLE. Let me direct this question to all of you. There is legislation pending in the House of Representatives to impose severe further limitations on the ability of military officers who work in the procurement area to be employed by defense contractors upon leaving the service.

Do you view the so-called "revolving door" as a problem, and do you think more stringent controls in this area are needed?

AIR FORCE

General SKANTZE. I do not believe the so-called "revolving door" is a problem requiring more legislation. There are already abundant controls on the nature of employment a former federal employee may accept with a contractor. Some examples of these controls are in the Ethics in Government Act which contains wide ranging restrictions on representational activities a former officer or Federal employee may conduct on behalf of anyone other than the Federal Goverment. There is a lifetime bar against any former officer or employee representing anyone before any government agency or official in any matter in which that person participated personally and substantially for the government. Another statute prohibits a retired regular officer for life from engaging in any effort to sell war supplies or material to the military department from which he or she retired. A third statute denies a retired regular officer retired pay if he or she engages in selling activity to any military department within 3 years of retirement. Other statutes severely restrict the extent to which a retired officer may prosecute claims against the government. We have active programs to make our people aware of these restrictions. I firmly believe that the existing statutes provide adequate restrictions against unethical conflicts of interest.

NAVY

Admiral WHITE. I have mixed feelings on this subject, because we have several values to consider. We certainly want the best of industry, as well as other proven and tested top-notch performers, to bring their talents to the management of government operations. We would only deprive ourselves the opportunity to use the best if we established economic barriers that prevented or encumbered the return to private life of talented former government officials and military members. On the other hand, I see we must curtail the abuses that can derive from individuals who will take employment in areas in which they had recent and prior experience. For example, I certainly view with disdain the actions of a military officer who would leave his key position in the government's field contract administration office to go to work for the contractor over which he had surveillance responsibilities. In short, we don't want to penalize the government from taking advantage of the Nation's proven talent, but we do need to stand firm to prevent abuses. I do believe strongly enforcing the rules we now have in place will go a long way in keeping this situation under control.

ARMY

General THOMPSON. There are presently sufficient restrictions in Title V of the Ethics in Government Act of 1978 and regulations promulgated thereunder to adequately safeguard against conflicts of interest or ethics violations by retired military officers. Considering any further restrictions at this time, when the Act and regulations are less than five years old, would be premature. We should give the statute and regulations a chance to work before additional restrictions are imposed.

Any further restrictions on retired military officers may limit their employment opportunities to non-DOD contractors and cause the Government to be deprived of the education and experience of these capable officers. Any additional restrictions which would prevent a DOD contractor from using the services of the retired military officer would not be in the best interest of the United States.

With regard to selling to DOD or the Army by retired military officers, the restrictions are also adequate. A regular retired officer is prohibited, at all times from representing any person in the sale of anything to the Government through the military department in whose service he holds a retired status. In addition, there is a three year prohibition from selling or contracting or negotiating for the sale of tangible property to DOD and other specified agencies.

PROCUREMENT MANAGEMENT CAREER PATHS

Senator QUAYLE. Do you believe that procurement management should be a career path for officers?

In other words, should some officers devote virtually all of their career to working in acquisition, while other officers devote their careers to operational or support positions?

AIR FORCE

General SKANTZE. Yes, we do believe that procurement management should be a career path for some officers. Even today, we have some officers who devote virtually all of their career to working in acquisition management. Let's look at a typical approach for developing a program manager. The individual will have graduated with a minimum of a Bachelor's Degree in engineering, computer science, or pure science. Upon entry into the Air Force, he/she will have an operational tour. If business management training is lacking, obtain such education preceding or in conjunction with the next assignment, perhaps gaining a Master's Degree through the AF Institute of Technology. He/she will leave the operational command for an assignment at an AFSC laboratory, program office, or test center. We are now at mid-career. Over the next twelve years, he/she will complete two more assignments at program offices, gaining experience in program control, engineering, and/or project management. During this period, he/she will most probably attend a program management course through the AF Institute of Technology or Defense Systems Management College. An assignment to HQ USAF/RD or to HQ AFSC is a natural follow-on. He/she is then in a position to be selected to manage a program.

Our manpower and personnel office works very closely with the Military Personnel Center in the management of scientific, engineering, and acquisition management personnel. We attempt to give our young officers some operational experience that they can use in the laboratory and the program office. We also use officers in the rated supplement to bring similar operational experience to our acquisition

management facilities. Our long term goal is to develop people who can do a top notch job in the acquisition management career field.

NAVY

Admiral WHITE. This is an area in which the Navy has made real progress over the past several years. We do have categories of officers, such as our engineering duty officers, aviation engineering duty officers, Supply Corps officers, and some unrestricted line officers, whose members spend the largest part of their careers in the business of management of the Navy's acquisition of weapons, equipments, and repair parts. In addition, we have made recent improvements to our system by lengthening and stabilizing tour lengths for program managers, increasing our utilization of the Defense Systems Management College and tightening our control of assignment of officers to assure the best qualified are used in procurement management.

We have developed a career specialty in Weapons Systems Acquisition Management. These officers receive special additional schooling in system acquisition matters, and their performance is reviewed annually to ensure that proficiency and competence is maintained at high levels. We have new initiatives to increase the career opportunities for these officers and to select certain highly qualified individuals for continuous assignment to procurement management positions. The major contribution of our top level civilian procurement management career specialists should not be overlooked. They get special training, gain years of highly technical experience, and provide stability to our programs. We think that complementing a military officer program manager with these skilled civilians is extremely effective. We are striving to have the military officers possess the correct balance of operational knowledge and management skill so that the whole team has maximum effectiveness.

ARMY

General THOMPSON. Yes. Procurement Management is a career path for Army officers under the Officer Personnel Management System and the dual track system, which calls for a procurement job every 3 years. In addition, at the grade of O–5, officers may elect to stay in procurement for the remainder of their career.

As a result of an Officer Personnel Management System study group indicators are that select officers will be able to "single track" on procurement starting in about the third year of their career. Implementation of this effort is expected in 2 to 3 years.

SPARE PARTS PROCUREMENT

Senator QUAYLE. There have been numerous management initiatives in DOD in all the services to deal with the spare parts problem. I have some concern that the system is becoming overloaded, that we may be asking more of the average worker than we can reasonably expect. We already see substantial delays in the procurement of some spare parts, and this may compromise readiness.

Is this of concern to the service at this time?

AIR FORCE

General SKANTZE. Current and proposed legislation may cause schedule delays and administrative confusion. Mandated procurement practices that focus on detail rather than policy, or that are unnecessary, may have unintended and undesirable effects. Our greatest concern is that, in our haste to change the process, we have not properly deliberated the potential effects of proposed legislation on the small business community or the total cost to the American taxpayer.

The Air Force Contract Management Division (AFCMD) has initiated an enhanced spares acquisition support program which includes a value review procedure on all spare parts purchased. All parts that appear to be overpriced are reviewed by Air Force Plant Representative Office (AFPRO) personnel to verify the true value of the item. This process has increased the processing/negotiation time for spare parts by 50 percent. The delays caused by this process will continue to delay the procurement of spare parts and impact the support posture of our weapons systems.

NAVY

Admiral WHITE. The Navy has made excellent progress under the program established to improve acquisition of spare parts; we call this project BOSS (Buy Our

Spares Smart). However, this remains a complex and multi-faceted issue. Government personnel and contractor support have been added in order to comply with the many new legislative and other initiatives which are being put into practice. Despite this added manpower, delays have been introduced into the procurement system which stretch out the time necessary to place some items under contract. While we cannot readily quantify the exact cost of these delays, I can state that they have not had, to date, any apparent impact on readiness.

ARMY

General THOMPSON. Last September DOD authorized an additional 1,063 personnel to implement spare parts initiatives. Through command emphasis both at AMC and at the major buying commands a major effort to increase training was undertaken. This included over 24,000 hours of local training and the development of a special Spare Parts Management Course to be presented on site at our buying commands over the next two yers.

Readiness is of the utmost importance to AMC. Delays in the procurement of some spare parts have been experienced due to a reduction in the use of unpriced instruments, application of warranties, and careful attention to contract pricing. AMC has taken steps to overcome these impediments through better planning, increased use of ADP and streamlining of the procurement process.

COST TYPE CONTRACTING AND FIXED-PRICE TYPE CONTRACTING

Senator QUAYLE. To what extent has your service moved away from cost type contracting and utilized fixed-price type contracting?

AIR FORCE

General SKANTZE. Over the past 5 years, AFSC has aggressively pursued the use of a fixed-price contract whenever that type of contract has made good business sense. Over the past three years within AFSC, the number of fixed type contracts have equated to over 50 percent of new contracts awarded; whereas dollars of fixed type contracts have represented over 80 percent of the new contract awards over the same 3-year period.

NAVY

Admiral WHITE. Wherever possible the Navy is moving to fixed-price type contracts as a matter of policy. We think this is the best way to foster savings, control costs, and increase competition.

We have been especially successful in our shipbuilding programs. For example, in fiscal year 1983 the Navy's fixed-price competition for three Aegis cruisers yielded $228 million in savings from the President's budget request; and in FY 1984, competition for Los Angeles class nuclear attack submarines resulted in a savings of $108 million from the budget. In FY 1984, we contracted for 86% of our ships through fixed-price competitions; and we currently plan for all of FY 1985–1989 ships except Trident submarines to be awarded competitively. So you can see we have made fixed-price contracting a major ingredient in acquiring ships for our 600-ship Navy.

ARMY

General THOMPSON. Available data seems to indicate a shift from cost to fixed price. Our movement away from the use of unpriced contractual instruments has the effect of going from cost to fixed price.

The important thing is not whether a cost or fixed price contract is used, but that the contract type is appropriate given the circumstances of the procurement. The contract type selected should, together with the contract price, result in reasonable sharing of risk between the contractor and the Government, and provide the greatest contractor incentive for efficient and economical performance.

PRICE COMPETITION

Senator QUAYLE. Would it be advisable for DOD to conduct more price competition after prototypes are produced?

In other words, should multiple prototypes of a system be produced and then a competition conducted after that based largely on price for the production quantities?

AIR FORCE

General SKANTZE. It is AFSC Command policy to maintain competitive sources as far in full scale development (FSD) as economically possible. Often this results in the development of competitive system prototypes or critical components. When we solicit proposals for completion of FSD and initial production, the extent to which we were able to maintain more than one source in development helps determine the number of fiscal years worth of production we can reasonably expect the contractors to price. The further into FSD two or more sources are carried, the higher the confidence in pricing future production options. Seldom is it reasonable to price an entire production program—the risks to the contractors are just too great. For our final selection, we must, therefore, rely on our source selection process, which considers not only proposal price but also technical merit, production risk, and life cycle cost. To evaluate largely based on price might encourage unrealistically low offers for initial production in anticipation of future noncompetitive production contracts.

NAVY

Admiral WHITE. It is our position that more competition is better and can be expected to produce savings. However, when developing the program acquisition plan, the Navy must balance the costs and benefits of competition, both for design and production, upon economic, technical, and management analyses reflecting program characteristics.

When upfront funding is available for multiple prototypes of a system, with sufficient production quantities anticipated, the acquisition plan will consider both design and production competition.

ARMY

General THOMPSON. It is very desirable to be able to keep competition through the prototype stage. U.S. Army Materiel Command has done this in the past with the final competition based to a large extent on prices for production quantities. Examples are the M1 tank and the Multiple Launch Rocket System.

AVAILABLE DEFENSE INDUSTRIAL BASE

Senator QUAYLE. With respect to the major weapons systems which each of your services procures, could we have your assessment of the available defense industrial base, both at the prime and subcontractor level?

AIR FORCE

General SKANTZE. Let me address this question in two ways, both of which I will base on a recent assessment of the defense aerospace base called, "Blueprint for Tomorrow," performed by the Aeronautical Systems Division at Wright-Patterson Air Force Base.

In our current peacetime environment, the defense aerospace base is fully capable of meeting the Air Force's production requirements for new systems, as well as for spare parts. This, however, does not mean that the base cannot produce more efficiently. "Blueprint" identified numerous cost drivers, including assembly, inspection, and fabrication processes, tooling, composites, castings, forgings, and electronics. These high cost areas present challenges for future modernization and innovation—challenges we plan to meet through improved acquisition techniques and laboratory development of new products and processes.

However, in surge or mobilization conditions, our defense base has severe limitations. "Blueprint" assessed these capabilities based on very conservative demands, and found major limitations, particularly in the lower tier structure of the base. These limitations included shortages of skilled personnel, materials, facilities, equipment, and tooling. Our corrective measures for this problem involve indentifying industrial constraints through an annual Production Base Analysis process and then following up with specific enhancements or investments that address these contraints. "Blueprint" is part of this relatively new process that, in the future, will yield some real solutions to this difficult problem.

NAVY

Admiral WHITE. Shipbuilding and aerospace defense contractors clearly have the capacity to produce the levels of equipment we will purchase over the next five years. We have been taking steps to increase competition in these procurements to

ensure we get the best values for our taxpayers. To also ensure we strengthen the industrial base, we are taking measures to increase small business participation in our program. Since March 1983, we have conducted 38 "How to Do Business with the Navy" briefings in 42 congressional districts in 18 states across the country. Nearly 4,500 businessmen and women have attended, and the program has met with great enthusiasm. In fiscal year 1984, $6.1 billion was awarded to small business on a prime contract basis. This equates to 15.3 percent of the total dollar awards to U.S. business firms, significantly exceeding the fiscal year 1984 goal of 12.9 percent.

As we are aware of concern in some studies about the subcontractor base, we have also emphasized to our primes the need to increase subcontractor competition. Because of the above actions and others we have taken, I believe the industrial base is strong.

ARMY

General THOMPSON. Evaluation of the available defense industrial base should be viewed from a peacetime procurement mode and ability to respond to specified surge and mobilization scenarios.

Our peacetime base is generally adequate to support current acquisition buys. However, a significant portion of Army manufacturing under defense programs is accomplished using outdated and inefficient capital equipment in a labor intensive environment. Contractors have been and are continuing modernization efforts under various capital investment programs, such as accelerated depreciation, that allow for increased return on investments and a sharing of savings. Subcontractors are encouraged to participate.

Surge and mobilization expansion capabilities are limited to available peacetime funding and personnel levels. Both prime and sub-tier contractors are constrained from mobilizing by the availability of skilled manpower, capital equipment, facilities, material, tooling and test equipment. The ability to expand is dependent on the amount of preplanning accomplished and the degree to which pre-mobilization lead time reduction efforts have been pursued.

Army initiatives include a program to preposition long lead production line inventory for selected pacing components and planning for use of commercially available substitutes where the military item cannot support wartime needs.

CHANGES IN PROCUREMENT PROGRAMS

Senator QUAYLE. We are told that in most procurement programs there are numerous changes in a system, particularly in early production. Information provided to the Committee indicates that it is not unusual to have more than 1,000 changes in the early production of a new aircraft.

Doesn't this use of frequent changes cause substantial management problems, and can't the number of such changes be reduced?

AIR FORCE

General SKANTZE. While it is true that many changes do occur during early production, the vast majority do not affect the form, fit, or function but represent minor changes. Minor changes of this type do not cause management problems and are referred to as Class II engineering changes. These changes may involve change in documentation (correction of errors, addition of clarifying notes), manufacturing process changes, material substitutions, etc. Those changes which affect the form, fit, or function of the system are Class I engineering changes normally reviewed at the Program Office through a formal process known as the Configuration Control Board. A Class I change does not necessarily imply a change to the hardware. For example, breaking a single configuration item (CI) into two CIs for better field tracking would be an administrative change, not a hardware change. Many Class I changes are not major. For example, increasing the diameter of a hole or changing a sheet metal bend radius for ease of manufacture (so the older configuration would not be used) would require a Class I change that is simple. Thus, usually there are few major changes to a system. We are implementing new management methods to reduce the number of changes to create greater program stability.

As I mentioned earlier in my testimony, we are baselining our programs. This process defines and controls program requirements and prevents changes from creeping in. Under this concept, programs are managed within the constraints of a defined baseline and cost cap. Simply stated, we get all the major players to agree, up-front, on a program's cost, schedule, performance, training, spares and mainte-

nance. The developer, user, tester, and logistician formally commit to delivering the required product on time within cost.

NAVY

Admiral WHITE. This used to be a problem area, but we have made a major point of keeping changes down through a stringent engineering and business control process. We now have strong controls in place and, therefore, the large number of changes you refer to in the Navy could only relate to very minor changes which become necessary as the development and production programs evolve. All major program changes, such as block upgrades, will involve the review and approval of the Chief of Naval Operations, the Secretary of the Navy, as well as my office. We are all working together to keep changes down. Perhaps changes were not scrutinized by top management in years gone by, but I can assure you we know we have a responsibility here to keep changes down so we can keep cost down and our contracts enforced. We take this responsibility seriously.

ARMY

General THOMPSON. Although an aircraft program in early production encounters numerous changes, the majority of these changes do not affect the configuration of the aircraft and therefore, do not cause a management problem. Changes are grouped in several classes and are referred to as Engineering Changes Proposals (ECP). Class I ECPs are the results of a government action which changes a requirement or recommended changes from the contractor. These ECPs, must be approved by the Government and are changes that affect cost or the specification. Class II ECPs do not affect cost or the specification and usually are required to resolve interference problems, tolerance build up, et al. A board is set up by the PM to review each ECP. This review of ECPs and implementation, if approved, could cause substantial management problems if all Class I ECPs were approved, however, this board holds changes to a minimum.

INTERFACE BETWEEN THE DEVELOPERS OF MILITARY REQUIREMENTS

Senator QUAYLE. Each service separates the formulation of military requirements from the execution of contracts and management of procurement.

Could you describe the interface in your service between the developers of military requirements and your command?

Is this relationship a satisfactory one, or would you restructure the relationship and, if so, how?

AIR FORCE

General SKANTZE. The operational requirements process provides the means to identify operational deficiencies, state operational needs and initiate development or improvement of systems or equipment. The various Defense Mission Areas or specific missions for which the Air Force is responsible are delegated to the major commands. We look to the major commands to continuously analyze their mission capabilities and identify operational needs. Operational needs may result from a projected deficiency or obsolescence in existing systems, a technological opportunity, or an opportunity to reduce cost.

Operational needs, identified by the analysis process, which cannot be satisfied within a command's existing capabilities and will likely lead to system or equipment development should be considered for processing as a Statement of Operational Need (SON). We review all draft SONs and provide information to the originator on the technology base and other considerations to the extent that information on solutions allows. Following publication, we review the document and provide comments and recommendations to HQ USAF. We also provide a plan for the concept exploration phase as part of this response. The SON then faces the HQ USAF validation process. This is accomplished through a corporate review of the stated need and supporting justification, within the context of total Air Force requirements, objectives, mission, and priorities, and in consideration of resource limitations. Validation of the stated need by the appropriate authority constitutes the Program Initiation Decision point of the acquisition process.

Following SECAF decision to begin concept development, HQ USAF provides formal direction to us and participating commands by using a Program Management Directive (PMD). The developer of military requirements or operator/user participates as part of the systems acquisition team from start to finish. Officers from the Air Force operational commands are co-located with us in the system program

offices (SPOs) at each Product Division. The PMD also is used during the entire acquisition life cycle to start requirements and request studies as well as initiate, approve, transfer, modify or terminate programs. This relationship has proven to be a satisfactory one and we would not propose any restructuring.

NAVY

Admiral WHITE. The Secretary of the Navy, the Chief of Naval Operations, and the Commandant of the Marine Corps, all have responsibilities for establishing performance requirements that our Navy systems must be able to satisfy. If I think some requirements are too costly or over-specified, I discuss and bring these issues to their attention. I am not hesitant to challenge requirements when I think savings can be accomplished. The results have shown that we in the Navy have in place a good working system to make these decisions and manage our weapons acquisition process.

Although I challenge requirements when appropriate, it is my basic responsibility to manage the development and acquisition of these systems, to ensure that the established performance requirements are met, and to take strong actions when they are not met. I do advise the Secretary, Chief of Naval Operations, and Commandant of the Marine Corps as to the adequacy of available or emerging techology.

All in all, I have found this process to be logical and effective. I am confident this system works to the taxpayers benefit.

ARMY

General THOMPSON. AMC has a sound business relationship with the Training and Doctrine Command. The corporate dialogue works at all levels beginning with requirements generation and continues throughout the entire life cycle process. For example, we recently established a general officer level Materiel Acquisition Review Board to approve key strategies and plans for all major programs. HQ TRADOC provides a full-time voting member to this board. The relationship is entirely satisfactory.

INTERFACE WITH DCAA

Senator QUAYLE. Would you please explain the interface between DCAA and your command?

Is the relationship with DCAA a satisfactory one, or would you restructure the relationship and, if so, how?

AIR FORCE

General SKANTZE. The DCAA Auditors serve as principal advisors to the Air Force Systems Command's contracting officers on contractor accounting and contract audit matters. The services DCAA provides include: audit of contractor proposals in support of contract negotiations, review of contractor accounting systems, audit of estimating methods, audit of defective pricing allegations, pre-award surveys, and audit in support of forward pricing rate negotiations.

DCAA is independent from the services in order to provide an independent evaluation of contractor costs to aid contracting officers. We pay particular attention to the timely and appropriate resolution of DCAA recommendations made to contracting officers through a comprehensive audit follow-up process. This relationship has been satisfactory.

NAVY

Admiral WHITE. The DCAA organization has subordinate field offices including district/regional, branch, procurement liaison, contractor residency, and contract audit coordination offices. The DCAA interfaces with my command whenever audits are required, and their role is that of an advisor providing contract audit reports to assist the contracting officer in the award and administration of contracts.

Our relationship with DCAA has been satisfactory; however, when we have instances when we believe the service provided should be improved, we have a mechanism to voice our desires to DCAA as one of their "customers". We are not reticent to let them know our opinion.

ARMY

General THOMPSON. The primary mission of DCAA is to provide contract audit assistance to the DOD procurement community. The Army, as is the rest of the DOD, is totally dependent upon DCAA for audit of contractor proposals and other functions such as review of contractor accounting systems. Without the assistance of DCAA, the Army procurement organization would not be able to perform its job. The relationship between the Army and DCAA is very good. There are always some problems, such as, we always would like audit of proposals to take less time. However, DCAA usually submits audit reports of high quality on the schedule agreed to by the Army and DCAA.

COST GROWTH IN WEAPON SYSTEMS

Senator QUAYLE. What is the most recent experience of your Service with cost growth in weapon systems?

What are the major causes of any cost growth now being experienced?

AIR FORCE

General SKANZTE. Cost growth is reported in our Air Force Selected Acquisition Reports, (SARs). SAR program costs have remained relatively stable over the last two years. Although total SAR program costs have increased (due to the addition of several programs), analysis of individual SAR program cost changes from 1981 to 1983 shows a decrease of $1 billion (base year dollars) and $6 billion (then year dollars). Cost growth, including quantity changes, declined from 111% of the Development Estimate (DE) in 1981 to 30% of the DE in 1983 (base year dollars). Discounting the fluctuations in quantities, cost growth has declined from 66% of the DE (1981) to 18% (1983). The primary drivers for this decline are the increased use of Independent Cost Analyses (ICAs) to better refine cost estimates, and multiyear procurement negotiations. We also believe that our efforts to improve program stability are beginning to pay off in reduced cost growth.

The SARs contain the cumulative cost growth for our major AF programs. Recently, quantity increases and their accompanying support cost increases have been the major (largest) contributors in cost growth. In most cases, as you increase quantities you need to increase your spares and support equipment to support the additional quantities. For example, 486 aircraft were added to the F-16 program, as of the 31 December 1983 SAR. This resulted in a quantity cost increase of $1.4 billion (base year dollars) and a corresponding increase of $.7 billion in support costs. When measured on an annual basis, overall SAR cost growth has been relatively constant.

NAVY

Admiral WHITE. We are currently experiencing in shipbuilding an era of cost containment and savings. For the most part, our ships will be delivered early and under budget. We are soon to launch the CVN-17, the *Theodore Roosevelt,* some 17 months early. The FY 1983 multi-ship contract for the nuclear aircraft carriers *Abraham Lincoln* (CVN-72) and *George Washington* (CVN-73) has resulted in savings of over $750 million. These savings are expected to increase as the program proceeds toward completion. With every FFG ship completed ahead of schedule and under cost, the *Oliver Hazard Perry* (FFG-7) frigates have been particularly successful. Our Aegis ship construction programs are showing that we can and are building high-tech ships and keeping their costs under control.

The double digit inflation of the late seventies and early eighties is behind us. To control cost growth resulting from changes, we are focusing on program stability in our acquisition strategies. We are defining our requirements more clearly and controlling changes after contract award. The movement from cost to fixed-price contracts in all areas is one way we are containing cost. We have come to the point now that funds for cost growth in naval ship construction are no longer budgeted. I am certain you can see this is an area that is in better shape now than was the case in prior years, and we plan to keep it this way.

ARMY

General THOMPSON. The major causes contributing to cost growth in major Army programs during the late 1970's thru 1982 included spiralling inflation and program turbulence. The latter category was driven by quantity changes, slips in programs schedule (stretchout), and funding shortfalls.

Recent Army experience shows a marked decline in the rate of annual cost growth in major weapon systems because of reduced inflation rates and improved program stability (less turbulence). This includes fewer quantity changes, retention of planned program schedules, and congressional support of the defense budget. The result in the Army is a decline in the rate of annual cost growth from a high of about 14% in 1980 to less than 1% in 1983 and 1984.

OVERHEAD COSTS

SENATOR QUAYLE. It is my understanding that overhead costs are audited only on a sample basis.

Doesn't this create a large incentive for contractors to submit any cost, no matter how arguable its allowability, in the hope that it will not be scrutinized by DCAA?

AIR FORCE

General SKANTZE. Overhead costs are audited annually during final overhead reviews required by DAR 3-705/FAR 42-705. During these reviews, all overhead cost accounts are audited either fully or by sampling techniques. The majority of cost accounts are completely audited; however, certain costs, such as travel expenses, are normally audited by statistical sampling techniques. Results of the sampling are applied to the total cost account level. If a 5 percent unallowable cost rate is found as a result of sampling, the total cost account would be decremented by that factor. If significant problems are found, then the total account would be audited no matter what the size. The statistical sampling techniques used are widely accepted, proven, and practical tools which enable auditors to concentrate their efforts in larger areas.

We believe that under the present system, auditors are able to accurately determine the amount of unallowable costs, and the system adequately protects the interests of the taxpayer. We would recommend no changes.

NAVY

Admiral WHITE. No. The sampling methods used by DCAA and CPA firms to verify the allowability and reasonableness of financial records has merit. Once unallowable costs have been discovered, I understand DCAA normally expands the scope of its audit to determine if the same or other accounts contain unallowables. This is a good practice.

In general, it is our belief that DoD contractors are in compliance with Cost Accounting Standards and there appears no reason to change the current system. We know we must stay on watch to detect those contractors that may act to take advantage of the government.

ARMY

General THOMPSON. At large defense contractors, major overhead accounts are audited at least annually (e.g., salaries, holiday and sick leave, depreciation). Smaller accounts usually receive a sampling review (e.g., fire insurance, workmen's compensation). Any account showing a significant change from year to year is audited; similarly, an account which should change, but does not, is audited. I do not believe any change in the method of auditing overhead accounts is necessary.

WARRANTIES LAW IMPLEMENTATION

Senator QUAYLE. Have your commands had any substantial difficulty to date in implementing the warranties law, and do you anticipate any future difficulties?

AIR FORCE

General SKANTZE. The implementation of the warranties law has not caused substantial delays. However, a number of negotiations have been extended to accommodate the incorporation of warranties. Air Force policy has always been to obtain product performance agreements when they make good business sense. The major difficulty we have experienced with the current law and the proposed law is the mandatory application of warranties to all programs. We need the flexibility to apply product performance agreements, warranties, or other incentives when appropriate. For example, satellite systems offer a particular challenge concerning warranty application and the contractor's responsibility to repair or replace defective

parts required by current legislation. It is not currently feasible to return satellites to earth for implementation.

NAVY

Admiral WHITE. In my statement before the Senate Armed Services Committee on Section 794 of the fiscal year 1984 DOD Appropriation Act of February 28, 1984, I stated that the Navy had been obtaining warranties on all new ship construction, ship repair, planes, and all aircraft engines. We had also obtained warranties on some electronic countermeasures equipment, missiles, electronic altimeters, tactical computers, radios and auxiliary power units. So implementation of the new warranty law did not impose any great burden on the Navy at that time. This is not to say that in the future we may not have any problems. I believe the Navy's warranty program is sound and we have not realized any significant problems since implementation.

ARMY

General THOMPSON. While there have been some difficulties implementing the law, it is our intent to fully comply with the spirit and letter of the law; the Army aggressively pursues the use of warranties wherever they would be of benefit, whether they be on weapons systems/components, non-major systems, or technical data. To date, 479 contracts have been awarded that fully comply with the legislative requirements. Only one waiver (a gyroscope) has been granted. Within our Commodity Commands there have been conflicting interpretations of OSD guidance on what items were subject to Section 794. Guidance has been provided by this headquarters defining the type of components required to be covered by warranties. Additional guidance defining the major systems subject to the law will be issued to the field reflecting the new legislation passed by Congress.

There is an impact on our resources. It is estimated that implementation of the expanded Army Materiel Warranty Program will require approximately 750 man-years by fiscal year 1986 in AMC. We are meeting this new manpower requirement within current resource constraints by diverting resources from other AMC functions.

We must consider the impact of warranties on the soldier in the field. The Army wants to get everything it can out of the warranties we buy, yet we recognize the need to minimize burden on our soldiers. As in all warranty administration actions, the soldier must fill out paperwork. This is in direct conflict with our goal to make the soldier's job one of fighting battles, not shuffling paperwork. We also recognize the need to preserve the proficiency of mechanics in the field and ensure the highest possible level of readiness, in the event of transition to war. In order to maximize benefits and minimize negative impacts, warranty claims and administration will be limited to rear echelon support (General Support and Depot level repairs). This is where most of our warranty claim would arise.

DUAL SOURCE ACQUISITION STRATEGY

Senator QUAYLE. The concept of dual source, or leader-follower, as an acquisition strategy has been encouraged.

Do you believe this is a sound concept?

AIR FORCE

General SKANTZE. Dual source and leader-follower techniques have been used for industrial mobilization base purposes and more recently the Competition in Contracting Act of 1984 provides for dual sourcing to achieve program cost savings. When used properly, second sourcing techniques achieve positive savings. However, their use must be supported by a well-developed cost analysis and implementation strategy to ensure up-front costs are more than offset by downstream savings.

We are currently developing additional analytical techniques and guidance for identifying programs susceptible to cost savings. The key to good results is to ensure that we apply these concepts judiciously when a thorough life cycle cost analysis indicates a realistic savings potential.

NAVY

Admiral WHITE. Yes, I consider this concept has real merit. The Navy looks to establish an acquisition strategy which incorporates competition throughout the life of a program. A second production source provides an expanded industrial base for

mobilization as well as competition benefits such as lower costs and improved contractor performance. The leader-follower approach can be an effective method of establishing a second source, especially when the system to be produced is extremely complex and direct contractor-to-contractor transfer of technology is important. Other dual-sourcing techniques include technical data package; form, fit and function; directed licensing; and contractor teaming. Navy program managers evaluate alternative approaches for multiple production sources and recommend to the Navy leadership those techniques which they believe best fit their program. Recent decisions to dual source major programs—such as the Aegis combat system, Phoenix missile, JVX aircraft and F404 engine—reflect the Navy's sincere belief in the benefits of dual sourcing. I think many members of your committee think we are on solid ground in pursuing this course of action.

ARMY

General THOMPSON. It can be a very sound concept that enhances our mobilization capability as well as creating the potential for future competition. There have been some problems with the transfer of technology from the leader to the follower. The Hellfire missile is an example of a recent AMC success with dual sourcing.

DSARC AND DRB PROCESSES

Senator QUAYLE. To what extent is your command involved in the DSARC and DRB processes, if at all?

AIR FORCE

General SKANTZE. AFSC has the responsibility for the research, development, test, evaluation and acquisition of fully supported weapons systems. In carrying out these responsibilities, we play a key role in the DSARC decision making process. AFSC program managers (PMs) are directly involved in providing decision oriented information to executive reviewers and decision makers approaching the major milestones of the manager's program. In fact, the PM's primary job is to reduce uncertainty or risk about the reliability, maintainability, performance, costs and schedules of the major system planned to meet a validated military need. We directly provide information to the SARC which in turn advises the acquisition executive (AE). The AE then directs our effort beyond the key milestones leading to the concept development, demonstration/validation, full scale development, and production phases.

The Defense Resources Board (DRB) is concerned with executive decisions in the PPBS process on allocation of resources among programs within overall budgeting and programming guidance. The DRB takes up issues that from an overall financial picture affect the level of our efforts on individual programs. AFSC provides financial estimates of program acquisition and life cycle costs that are the basis for DRB deliberations. The DRB determinations may in turn temper or throttle Air Force program starts, the pace of our developments, or the rate of our developments, or the rate of our procurements. We approve the acquisition strategy and ensure that each program meets the established goals. For example, AFSC is responsible for documenting the system alternatives to meet the operational need, and for inputs to the draft Decision Coordinating Paper (DCP) used to propose acquisition programs to SECDEF by the Air Force at Milestone I.

We are informally provided copies of DRB actions from HQ USAF/RDX. We then review these for programmatic impacts and provide appropriate responses up through the AFSC Chain of Command-DCS level, Program Review Committee (PRC), and CC. In addition, Systems Officers (SYSTOs) are in constant touch with their Program Element Monitors (PEMs) and provide informal comments as required.

NAVY

Admiral WHITE. The Naval Material Command is involved in the DSARC and DRB process. As the senior uniformed official in the Navy responsible for material and equipment acquisition, I work very closely with and assist the Chief of Naval Operations and the Secretary of the Navy and their staffs on these matters. Since the Navy program managers work for me or my systems commanders, it is fair to say that I have impact on and am impacted by these proceedings.

ARMY

General THOMPSON. The AMC involvement in the Defense System Acquisition Review Committee (DSARC) and the Defense Review Board (DRB) processes is generally that of providing, through the appropriate HQ, Department of the Army office, basic information pertaining to those weapons systems under consideration by the specific Defense body mentioned. While we normally do not deal directly with those Defense elements, we do have the opoportunity to present our position, as the Army's principal materiel developer, for consideration by both HQDA and OSD. The Program Manager (PM) for the system being reviewed represents AMC and is in attendance during the DSARC meetings to provide additional details on the specific system being reviewed. We do not directly participate in the DRB meetings; the principal Army representatives to that body are the Sec Army and CSA (both are voting members).

DEFENSE SYSTEMS MANAGEMENT COLLEGE

Senator QUAYLE. How good a job do you think the Defense System Management College is doing?

Do we need to expand this training program?

AIR FORCE

General SKANTZE. DSMC is doing an excellent job. It is an essential element in the careers of our program managers; they are in a program management career field that depends upon continued training and DSMC fulfills this critical need. We depend upon this system acquisition schooling for all our system acquisition personnel. We send approximately 110 students per year (55 students/2 classes/year) to their Program Managers Course and the education they receive at DSMC is essential to our doing our job of acquiring new weapons in a timely, efficient, and cost-effective manner. The Executive Course they offer for our more senior managers, along with the other outstanding short courses they offer, are vital to our overall education and training needs. In addition, their publications such as the Bimonthly journal "Program Manager" and numerous handbooks (Joint Program Manager, Systems Engineering, and one soom to be published on Competition) are an invaluable resource. All this helps our people in maintaining currency in the systems acquisition field. At this time, I do not feel we need to expand our training program.

NAVY

Admiral WHITE. The Defense Systems Management College is performing well in the preparation of officer and civilian personnel for material acquisition assignments. The recently expanded program now consists of sixteen courses ranging from the three and one-half day "System Acquisition Management for General/Flag Officers" course to the 20 week "Program Management Course." Over 2,000 students receive training at the school each year.

The program is being similarly expanded for the short courses using the new concept of Regional Centers. The Regional Centers, located in St. Louis, Los Angeles, Huntsville, and Boston, offer increased opportunity for attendance at short courses.

The Navy feels that participation in the Defense Systems Management College programs is useful in developing better prepared and more knowledgeable program managers in the future. We are investing time and money today in anticipation of even greater return in the future as we become better businessmen and acquisition strategists. In view of recent actions at the school, I do not see a need for any further extensive expansions at this time.

ARMY

General THOMPSON. The Defense Systems Management College is doing a great job. They offer a mix of courses designed to provide education in all areas associated with acquisition of weapons systems. In addition, they provide a forum for the interchange of ideas between the DOD Leadership, the faculty, and the students. This interchange encourages the creative thinking needed from our current and future acquisition managers.

The future expansion plans for the Defense Systems Management College are reviewed annually by top level DOD Policy Guidance Council of which I am a member. The 5 year plan approved by the Policy Guidance Council last November includes expansions which allow the college to meet the increasing demand for their courses. We believe the approved 5 year plan is adequate to meet Army needs.

DOD OFFICE OF OPERATIONAL TEST AND EVALUATION

Senator QUAYLE. Has the creation of the new DOD Office of Operational Test and Evaluation had any impact on the operation of your command?

To what extent would your command interface with this new office?

AIR FORCE

General SKANTZE. Yes. The DOT&E legislation provides for a low rate initial production (LRIP) decision followed by a ramp-up to full rate production contingent on the DOT&E's assessment of operational test results. This concept provides an excellent opportunity for AFSC to verify production techniques, and obtain production articles for a more realistic evaluation of system operational effectiveness and suitability. We are currently developing procedures to accommodate the dual production decisions as an integral part of the acquisition process. It is necessary to avoid delays in the ramp-up of production, resulting from effectiveness and suitability testing on the production articles. With proper phasing of programs, we believe we can accomplish this.

We intend to establish and maintain improved communications with our counterparts in HQ USAF and OSD to keep the DOT&E abreast of acquisition successes and failures so that he is better able to execute the responsibilities of his charter.

NAVY

Admiral WHITE. It's too early for us to be able to meaningfully assess the nature and extent of impact of the DOT&E office, or the details of how we will interface with them. We're just now getting ready to run the first Navy system through the DOT&E process. It will take several systems going through this process to give us a good bench mark on how well it is working.

ARMY

General THOMPSON. There has been no immediate impact on this command. In creating the New Operational Test & Evaluation Office, Congress has also mandated a Low Rate Initial Production (LRIP) requirement which is currently being implemented by DOD on a case by case basis. The full impact when completely implemented is unclear.

With the new procedures, going to full production will require a go-ahead decision by the Operational Test and Evaluation Office. This has the potential of stretching out the LRIP with concurrent cost increase. Another area that will be impacted is the requirements for additional resources for both operational testing and follow-on operational testing and evaluation as the new office exercises its charter to look at the adequacy of testing and ultimately attest to the operational suitability of the system.

Direct interface is not anticipated. Indirect interface, through U.S. Army Operational Test and Evaluation Agency, for additional resources (e.g., prototypes/hardware) to support additional Operational Test and Follow-on Test and Evaluation requirements imposed by the new office will be required.

CIVILIAN ASSISTANT SECRETARY FOR ACQUISITION

Senator QUAYLE. How do you view the civilian Assistant Secretary in your service responsible for acquisition?

Is he the responsible managerial official for procurement, or is he a civilian oversight presence who becomes involved in a limited number of broad policy issues that have public visibility or political sensitivity?

AIR FORCE

General SKANTZE. Dr. Thomas E. Cooper, Assistant Secretary of the Air Force (Research, Development and Logistics), is the responsible managerial official for procurement. Let me assure you, he plays a very active and key role in all facets of the procurement process.

NAVY

Admiral WHITE. In doing his job, the Secretary provides a valuable perspective as the civilian overseeing the military's procurement process.

As I mentioned before, I work closely with the Chief of Naval Operations, the Secretary of the Navy, and the Secretary's key staff assistants. Although we each have

our own well-defined responsibilities, we work in a very complementary fashion and keep each other informed regarding significant issues.

ARMY

General THOMPSON. The Assistant Secretary of the Army for Research, Development and Acquisition is the responsible managerial official in the Army responsible for procurement. He also has a significant oversight role.

MANAGEMENT RESOURCES

Senator QUAYLE. Do you believe that you have the management resources to meet your responsibilities?

AIR FORCE

General SKANTZE. I believe this command has "top notch" management resources to meet our responsibilities. AFSC has been particularly sensitive to building and maintaining the highest quality professional skills in our program managers. For example, of the 59 Air Force officers identified as fully qualified program managers and assigned to direct control of their program, all have bachelors degrees, 90 percent have masters degrees, and 20 percent have their doctorates. Seventy-five percent (75%) of these managers have completed one or more DSMC training courses. All have been selected and personally approved by the Commander AFSC, based on their knowledge, experience and demonstrated performances.

NAVY

Admiral WHITE. In this connection, I must tell you that we in the Naval Material Command have trimmed management headquarters resources from 852 military and civilian personnel in FY-81 to 554 personnel in the FY-85 budget. Our headquarters was singled out by Congress for cuts of $2.5M and 5 percent ceiling production in FY-84. These cuts were especially untimely because they coincided with renewed emphasis on competition, control of fraud, and many new procurement initiatives. This emphasis demanded more attention and control; thus more manpower not less. The cut was really "penny wise but pound foolish." We strongly urge you to assist in restoring levels of management-personnel at our headquarters. We need these people to provide top level control to ensure wise expenditure of the funds appropriated by Congress.

ARMY

General THOMPSON. No, not for the total job. A recent update of the AMC Baseline Study reflects a shortfall of 20,000 personnel authorizations to accomplish our total workload. We continue to offset some of this shortfall through our RESHAPE initiatives. These initiatives are judiciously applied to achieve increased productivity at least cost. They include:

Overtime;
Temporary Employees;
Contracting Out;
Efficiency Reviews;
Productivity Enhancing Investments.

Our RESHAPE funding requirements for fiscal year 1985 totaled $117 million. $72 million of these are currently unfinanced.

It appears likely that DOD will receive another congressionally imposed 5 percent reduction in personnel spaces in our Headquarters Management Account. The people who are charged to this account are those who develop our acquisition strategies, manage our productivity initiatives such as RESHAPE, and conduct compliance reviews so essential to attainment of our objective of using the resources provided in the most cost effective manner possible. While we understand that we will be allowed to apply these personnel spaces in other accounts, I feel that a reduction in the Headquarters Management Account, especially at this time, is ill-advised.

INCENTIVES FOR COST REDUCTION

Senator QUAYLE. The current issue of the Harvard Business Review includes an article by Professor Ron Fox of the Harvard Business School. Professor Fox concludes that more incentives for cost reduction are necessary if contractors are to be truly incentivized to hold down costs.

Do you agree with this?

AIR FORCE

General SKANTZE. Air Force Systems Command continues to investigate better ways to incentivize contractors to reduce costs. Several of the types of contracts in use today, fixed-price, incentive fee, and award fee, serve to incentivize the contractor through increased profits for cost reduction. The Government realizes further savings from follow-on procurements of items bought under these contracting methods. We have an active Industrial Modernization Incentives Program to incentivize contractors to make the capital investment necessary to upgrade their plants and reduce manufacturing costs. The business arrangement entered into between the Government and industry provides for a sharing of the savings that result from cost saving improvements.

NAVY

Admiral WHITE. Professor Fox covers, in perhaps too simple a fashion, a most complex field of economics. Some of his suggestions, like fostering competition, fixed price incentive contracting, and industrial plant modernization programs are standard Navy policy objectives and have much merit.

ARMY

General THOMPSON. Professor Fox concludes action is required by Congress, DOD and defense contractors to control defense costs. His principal thrusts, not new to DOD, are:

Cost as Basis for Profit. Our present method of determining profit in non-competitive procurement considers primarily the contractor's effort to be expended (or costs), and, secondarily, his risk and investment. So long as profit is directly related to costs, he believes contractors will not be incentivized to contain costs.

Reevaluation of the weight prescribed for costs in determining profit is in process by the Defense Financial and Investment Review (DFAIR) Task Force. The Army Materiel Command is a participant along with other DOD components. The Task Force's recommendations are expected early next year.

Competition. Experience has shown, in defense as in commerical procurement, that the threat of loss of contracts due to price drives contractors toward efficiencies frequently ignored in sole source situations. In 1983 the Army Materiel Command instituted throughout its procurement offices a competition development effort. While affecting mainly subsystems, components and spares, we expect substantially dollar benefits to result. Planning competition for ten to thirty years at a program's inception has been a consideration that perhaps has not been sufficiently emphasized; this is receiving increased attention.

Awards. Special awards providing higher profit for a contractor reducing costs is recommended by Professor Fox. Our incentive contracts frequently do not achieve their intent: Government/contractor sharing savings (cost underruns) at a predetermined ratio. It is more advantageous often for a contractor to share in cost overruns for that forces the Government to support product and business development staff and facility that assist the contractor in capturing future business. Improved means are under consideration by the DFAIR Task Force.

RENEGOTIATION BOARD LEGISLATION

Senator QUAYLE. What is your view of legislation recently reported by the House Banking Committee to reinstitute a Renegotiation Board that could reduce profits on DOD contracts after performance?

AIR FORCE

General SKANTZE. I believe sufficient and effective controls exist to protect the DOD from excessive profits on its contracts without resorting to statutory profit limitations, and therefore, do not support the reestablishment of the renegotiation board. The specific tools which we use today to insure we do not pay excessive profits include the cost accounting standards, the DAR/FAR cost principles, defective pricing audits, and the Truth in Negotiation Act.

NAVY

Admiral WHITE. On H.R. 639, a bill "To revise and reinstate the Renegotiation Act of 1951", my position is that it hasn't proven to be necessary. Since passage of the Renegotiation Act of 1951, there have been a number of legislative and regulatory actions which greatly strengthened government oversight of contract pricing. Some of the more significant actions were:

Public Law 87-653—"Truth in Negotiations Act" requires the contractor to certify that cost data provided the government is current, accurate and complete at the time of contract negotiations. It also provides the government the unilateral right to adjust a contract price downward if it is later determined the cost data was defective. The Defense Contract Audit Agency regularly performs defective pricing audits to assure the cost data was current, complete and accurate. This Act provides essentially the same protection to the government as would H.R. 639.

Public Law 91-379—"Cost Accounting Standards" established standards to be used in costing defense contracts which require contractor accounting systems assure accurate, consistent and equitable charging of costs. If a contractor is not in compliance with these standards, the government has the unilateral right to a price adjustment.

The Weighted Guidelines method of establishing prenegotiation profit objectives provides contracting officers with a uniform approach to profit objectives. It allows for a greater degree of rigor in evaluating contractor profit.

Indirect Cost Monitoring was established to oversee contractor indirect expenses. It represents a significant advancement in the government's surveillance over contractor indirect expenses. Cost monitoring reviews are performed to identify contractor inefficiencies, and if warranted, the contracting officer may issue a Notice of Intent to Disallow Costs.

ARMY

General THOMPSON. I do not believe a renegotiation board is required. I feel we negotiate fair and reasonable profits on the vast majority of our contracts. If excess profit is earned because the contractor failed to submit correct or complete data during negotiations, the excess may be recouped under the defective pricing provisions of the contract. If a contractor earned a larger profit than anticipated as a result of finding a less expensive method of producing the item, the Army will receive benefits during follow-on procurements.

QUESTIONS SUBMITTED BY SENATOR CARL LEVIN

QUALITY ASSURANCE PROCESS

Senator LEVIN. Admiral White, will you explain how the quality assurance process, as governed by MIL-Q-9858 works?

Admiral WHITE. Let me start by saying MIL-Q-9858 establishes a set of requirements for a Quality Program to be developed and implemented by the Contractor at his facility. The requirements are quite general and fit a wide variety of products and types of contractors. These are not quality requirements for products to be delivered under the contract, but definitions of a system to control the quality of delivered products. These controls include some processes and disciplines to be followed during manufacturing but do not focus on control of the design and manufacturing process as a whole. The main point to keep in mind is that actual product quality requirements and criteria for acceptance are established in the technical specification or elsewhere in the contract.

Senator LEVIN. Admiral White, do you feel there are any weaknesses in that system?

Admiral WHITE. Yes, we do. The Navy has long considered MIL-Q-9858 to be obsolete. It was written over twenty years ago and was suitable for about ten years, but we've been trying for about the last seven years to get it updated. It is so general that many quality systems which simply do not work can still meet the basic MIL-Q-9858 requirements. We can only get quality systems that work by rigorous, and very manpower intensive, interpretation of the document. It was basically designed to cover production contracts and is not suitable for the control of development effort. The single most glaring shortcoming of MIL-Q-9858 even as a requirement for a quality system to control production is the lack of focus on manufacturing disciplines and control of the manufacturing process itself as the way to achieve acceptable levels of quality and the assurance of quality. Every major Navy pro-

gram that has been in trouble because of quality problems in the last ten years has had MIL-Q-9858 as its quality system requirement.

PHOENIX MISSILE "TEAR-DOWN"

Senator LEVIN. Admiral White, on June 6, 1984, the Navy instituted a "tear-down" of a Phoenix missile.

What led up to the Navy's decision to dismantle that missile?

Admiral WHITE. I became concerned with performance information I received from our operation, test and evaluation people. It led me to the conclusion that we needed a more detailed analysis of the missile. I then directed production line missiles to be torn-down so we could assess their quality in manufacture and take further actions, if necessary.

Senator LEVIN. What did you find?

Admiral WHITE. We observed numerous instances of workmanship deficiencies in soldering, wiring and assembly as well as many design implementations which were not suitable for production. These design features did not represent best practice for a Navy missile and some contributed to the high number of workmanship errors. The basic problem was seen as attributable to not having a producible design and lack of discipline in the manufacturing process. We considered this to be unacceptable for production, and certainly it was an unacceptable product to deliver to the fleet.

PHOENIX MISSILE ACCEPTANCE

Senator LEVIN. Admiral White, what events led you to the rather drastic action of stopping acceptance of the Phoenix missile by the Navy?

Admiral WHITE. I decided that the quality control on the shop floor needed to be improved immediately. Also defective workmanship needs to be addressed when found. I wanted to ensure our sailors and pilots were going to be provided weapons that could be relied upon. This, in my judgment, required a halt in production and getting rapidly on with fixing the major problem.

Senator LEVIN. Admiral White, had this ever been done before by the Navy on a program this size?

Admiral WHITE. While quality control tear-downs of other weapons systems have been conducted by my office from time to time, this is the first time, to my knowledge, that a major weapons production line was completely halted, shut down and deliveries refused in order to instill quality of production on the shop floor.

Senator LEVIN. Admiral White, when did you recommend that progress payments be discontinued?

Admiral WHITE. On August 25, 1984, I directed that the Commander, Naval Air Systems Command take action to suspend progress payments. On August 27, 1984, the Principal Administrative Contracting Officer (PACO) Air Force Plant Representative Office, Hughes, Tucson, suspended action on Hughes Aircraft Company requests for progress payments against the Maverick, Phoenix and TOW contracts at Hughes, Tucson.

Senator LEVIN. Admiral White, were you supported in your decision by the Navy leadership?

Were you supported by the DOD leadership?

Admiral WHITE. Yes, after I made by decision I informed the Chief of Naval Operations and the Secretary of the Navy. Both these officials have given me their absolute and strong support.

QUALITY ASSURANCE PROGRAM

Senator LEVIN. Admiral White, do you believe the quality assurance program as set out in MIL-Q-9858 provided adequate warning of the types of quality problems found?

Admiral WHITE. As I stated earlier, MIL-Q-9858 is not doing the job for us. We did not get adequate warning of the type of problem which we are seeking to correct.

TOW MISSILE TEARDOWNS

Senator LEVIN. General Thompson, there have been numerous tear-downs of TOW missiles by the Army over the last 2 to 3 years. In fact, I understand that after tear-downs in May and October 1983 the Army found it necessary to institute 71 mandatory reviews of the TOW production process.

Was your Quality Assurance Program providing you with clues indicating that the problem was of such severity that this kind of scrutiny was needed?

Were those tear-downs part of the Quality Assurance Program?

General THOMPSON. In 1982 and 1983 the Army performed three Product Quality Management Reviews (PQMRs) of TOW operations at the Hughes Tucson Plant. While there were not any teardowns during these reviews, we did find problems in workmanship and quality similar to those found by the Air Force in their July 1984 review. The specific problems found in each of these reviews were corrected; however action was not taken to correct the total system. Because of these concerns the Army took two steps; (1) the teardown of a TOW missile, which occurred after the Navy Phoenix teardown, and (2) in May of 1984 we tasked the AFPRO to implement 71 mandatory inspections.

Senator LEVIN. General Thompson, what led to the decision to tear down the four TOW missiles the Army dismantled from July 17 to July 24?

General THOMPSON. The decision was implemented because Air Force Quality Audit indicated quality discrepancy reports with no specific resolution or corrective action.

Senator LEVIN. What did the Army find?

General THOMPSON. There were 79 different findings/discrepancies which were grouped into eight categories as follows: workmanship—18; instruction—11; product discipline—22; manufacturing methods—13; disassembly—1; design—6; vendor—6; unknown—2. NOTE: The most significant of the findings was wire clippings in container and missile.

Senator LEVIN. What did you do?

General THOMPSON. HAC was directed to correct discrepancies found during teardown. HAC chose to close down the plant for evaluation/corrective action.

Senator LEVIN. General Thompson, were you in any way pressured by OSD not to take the strong action of August 14, in which the Army stopped accepting TOW missiles?

General THOMPSON. No, sir.

MAVERICK MISSILE

Senator LEVIN. General Skantze, on July 23–27 the Air Force tore down a Maverick missile.

General SKANTZE. The Maverick missile teardown was accomplished to determine if the same workmanship and quality problems previously identified during Phoenix missile teardowns existed.

Senator LEVIN. What did you find?

General SKANTZE. A total of 33 nonconformances with specifications/drawing requirements were identified. These nonconformances were similar to the problems identified during the Phoenix missile teardowns and are generally classified as poor workmanship and quality problems.

OVERALL PLANT QUALITY AT HUGHES

Senator LEVIN. General Skantze, from July 18 through August 2 the Air Force conducted a review to look at overall plant quality at the Hughes plant.

If the Air Force Plant Representatives Office maintains 34 people at Hughes, why was it necessary to undertake this major review?

General SKANTZE. The review, conducted 18 July through 2 August, is a normal management review and was scheduled to be conducted later in the year. The purpose of these reviews is to provide an independent and in-depth analysis of a contractor's management systems. As a result of the deficiencies identified during the Phoenix teardown, the scheduled review was accelerated. In addition, the review was reorientated to concentrate on product integrity of the three missile programs in production.

Senator LEVIN. General Skantze, whose idea was the decision to withhold progress payments to Hughes?

General SKANTZE. It was a joint decision made by the Army, Air Force, and Navy.

Senator LEVIN. General Skantze, how long do you expect this action to last?

General SKANTZE. This action will continue until an acceptable corrective action plan is received from Hughes and we are assured that the plan is being implemented satisfactorily. The final volume of the plan is to be submitted by 30 September 1984. It will be reviewed for adequacy, and based on that review, a decision on when and how to reinstate progress payments will be made.

QUALITY ASSURANCE PROGRAM

Senator LEVIN. General Skantze, do you believe the MIL–Q–9858 Quality Assurance plan provided adequate notification of these problems?

General SKANTZE. MIL–Q–9858 provides adequate guidance to contractors for establishing quality assurance programs. In the case of Hughes, the quality plan was determined to be deficient and implementation of the existing plan was poor. While our normal surveillance had detected some quality problems, I am concerned that it did not reveal the full scope of workmanship and other quality problems. I am looking into better ways to conduct this contract management function.

[Whereupon, at 12 noon, the task force adjourned, subject to the call of the Chair.]

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